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DEVELOPING A GROWTH MINDSET THROUGH TEACHER TRAINING,
PEDAGOGY DEVELOPMENT, AND COMMUNITY REFORM

By

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A capstone submitted in partial fulfillment of the requirements for the degree of
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TABLE OF CONTENTS

CHAPTER ONE: Introduction.....	6
Overview.....	6
Personal Background.....	7
Educational Background.....	7
Rationale for the Study.....	11
Summary.....	12
CHAPTER TWO: Literature Review.....	14
Introduction.....	14
How Achievement is Shaped with Grit and Growth Mindset.....	15
What is Grit?.....	15
What is a Growth Mindset?.....	16
Teacher, Parent, Peer, and Individual Effects on Motivation.....	19
Teacher.....	19
Parents.....	22
Peer.....	24
Individual.....	25
Intervention and Pedagogies.....	27
Short Term Interventions.....	28
Long Term Interventions.....	29
Comparison of Short and Long Term Interventions.....	31
Implementing Change in Instruction and School Community.....	32

Teacher Training.....	32
Instruction, Communication and Pedagogy.....	33
Community Building Reform.....	35
Shortcomings in the Studies.....	37
Cross Cultural Analysis and Perspective.....	38
Cross Cultural Interventions.....	40
Discussion.....	42
CHAPTER THREE: Project Description.....	44
Overview of Project.....	44
Project Description.....	44
Rationale for Project.....	46
Setting and Audience.....	48
Timeline.....	49
Summary.....	52
CHAPTER FOUR: Reflection and Conclusion.....	53
Introduction.....	53
Personal Reflection on Chapter Process.....	53
Literature Review Research that Influenced the Capstone	55
Implications of the Project.....	56
Limitations of the Project.....	58
Future Project Use and Communication.....	59
Project Benefits to Profession	59

Summary.....	60
REFERENCES.....	62
APPENDIX A.....	65
APPENDIX B.....	75
APPENDIX C.....	80
APPENDIX D.....	103
APPENDIX E.....	107
APPENDIX F.....	110

ABSTRACT

A consistent problem in teaching has been keeping students engaged and motivated in their studies. Typically these problems were equated to either a student's inability to make a connection to the information, the material being too difficult, or a student feeling inadequate. To promote a deeper understanding and discover ways to ease these issues, this capstone project used the following question as a focal point, *what drives students' motivation to achieve and what steps can be taken to develop a growth mindset in students?* This project was centered around growth mindset as it has shown to be an effective tool in strengthening student achievement. Throughout the capstone growth mindset was explored, at length, and culminated in a year long project that implemented teacher training, pedagogy refinement, and community reform. The project was created from numerous studies on the psychology of motivation, cross-cultural viewpoints, and several mindset different interventions and reforms. Following the creation of the project, a small review on personal growth, effectiveness of the plan, and possible limitations were discussed.

Keywords: growth mindset, pedagogy, teacher training, community reform

CHAPTER ONE

Introduction

Overview

People lose motivation. They reach a limit and cannot continue. Most of the time breaks in motivation are temporary and correct themselves. Yet there are more problematic versions of losing motivation. In these versions, a person has either avoided a task, feared it, or abandoned it altogether. Usually, these issues are fueled by a psychological wall, in which someone felt that they were unable to complete the task. While these problems with motivation are usually seen throughout one's life, they are most frequently displayed in educational settings. Commonly teachers see behaviors like procrastination, task avoidance, and fear of failure, all of which disrupt students' educational success.

In an effort to find a solution to this, the following seeks to answer the question, *what drives students' motivation to achieve and what steps can be taken to develop a growth mindset in students?* This question helps teachers to find out more about the psychology of learning, the correlation between motivation and parent, teacher, peer, and self influence, and possible demographic variations in motivation. Additionally, this question helps educators to adapt growth mindset interventions and learning strategies that help to create educational strategies to combat motivational issues. In the following sections of the chapter, the personal and educational background of myself is discussed, as well as the rationale and purpose of the project.

Personal Background

As a child, math, reading, and writing, were very difficult subjects. These subjects would always be the last homework completed. Math was a nightmare. Every assignment was at the highest frustration level. Honestly it felt like all of the instructions were in Russian, the problems were in Chinese, and teachers' answer expectations were in Swahili. It was impossible. Reading and writing was a little bit easier, but papers were always started last minute and editing was absolutely horrible. Reading was just as difficult. Mom would always encourage reading, but it was difficult to sit and focus on reading for an extended period of time. It was a challenge to focus and read the words correctly. Looking back, these struggles were undiagnosed dyslexia and attention deficit hyperactivity disorder (ADHD).

While teachers would never say that motivation was an issue, they could tell that the work was very challenging. Fortunately mom and dad were very dedicated to a good education. They made sure that homework was completed and studying was on track. Thinking about it now, mom and dad were like eternal gusts of wind, pushing the academic sails forward. If they were not there tirelessly helping with homework, academic achievement would not have been this high. Their dedication instilled a growth mindset. Their dedication was the reason that lack of motivation and procrastination were not major issues. This realization has led to a different viewpoint on past students' attitudes and behaviors.

Educational Background

Columbus, Ohio, was the first job related to teaching. The school district was on the westside of Columbus and was the fifth largest school district in Ohio. This district

was known for being difficult and in a poor area of the city. Most of their two hundred schools were ranked 1-, 2-, or 3- out of ten. In fact, one of their highschools had a graduation rate of less than half. This highschool was very eye-opening. Everyday, it seemed like students would come into the classroom and check out. They would stare at the wall or play on their phones. Even when there was work to be completed, some students would not even make an attempt to get started. They would accept the paper, avoid their work in class, and then leave their paper on their desk at the end of the hour. They already knew that they were never going to turn it in.

This Columbus high school was not an isolated incident. The same problems were still found in Saint Paul Minnesota. Minnesotan students still exhibited similar behaviors, regardless of their school district rating. The continual defiance by students sparked interest and curiosity in what was causing students to act this way. Perhaps it was that the curriculum did not relate to them or perhaps they saw no purpose in it. Maybe there was something that held them back and they felt there was no reason to attempt the work, they were just going to fail.

Unfortunately, these substitute teaching jobs had not provided a substantial opportunity to help the students. The position does not provide an opportunity to make connections with students or plan more engaging activities. Thankfully, a consistent on-call substitute position became available in a small 6th-12th charter school in East Saint Paul. The school was predominantly African American and Latinx with many of its students having behavioral needs and learning support requirements. In learning more about a student's character and specific learning needs, better teaching practices and

perspectives were developed. It was learned that higher expectations and stronger communication were needed in order to be an effective teacher.

In an effort to rise to the occasion, these pedagogy practices were applied to a subbed math class. One of the students was always struggling to get her homework done, focus on her studies, and limit her noise level in the class. Rather than reprimand her, she was reminded of the expectations, was encouraged to focus on her work, make better choices and limit her interactions with her friends, especially if she felt that they were a distraction. Interestingly, once concern about these issues was expressed, her work and attitude changed for the better. Assignments were getting turned in and she acted like a leader to her friends. This experience made me realize that perhaps relationships and encouragement were just two small ways to change students' attitudes. This interaction showed how communication was connected to engagement and motivation.

Each of these substitute teaching experiences were blessings in disguise. They provided experiences for all grades, ages, abilities, and cultures. They also led to an opportunity to student teach abroad for a semester in Melbourne, Australia. The school in Melbourne was very different from any of the experiences that were previously had. This was a private school in a nice quiet suburb. Students had to pay tuition allowing the school to keep all of the technology and facilities up to date. The diversity of the school was low with the majority of the students being white. One of the student teaching classes was a 9th grade literature course that the students had elected to participate in. It was known that this course looked great on transcripts and strengthened one's college application. Even with this being the case, many of the students struggled with

motivation issues. In fact, the class was split 50/50, with half of the students going above and beyond, and the other half not finishing assignments or hesitant to start.

In one particular situation with this class, a student would always use the “I am distracted” line of reasoning for why his assignments were not being completed or that he was off track in the classroom. This continued throughout the semester up until the last assignment. Eventually, enough was enough and his low quality work could not be excused. Rather than just accept the low quality work, the student was told that he was not getting a grade. He was informed that his assignment was currently a D+, and that it was not going to be graded until he at least tried to fix a few things. At that moment, his attitude changed. He immediately went back to his desk and started working on his corrections.

This experience, once again, had shown how important it was to establish high expectations and strong communications with students. Fortunately, a good rapport was established with this student. He was easygoing during check-ins and class discussions. Our relationship made it easier to communicate with him that his work was not up to par and that he could have done more. His success with the edits showed that each student has different communication and learning needs. It seemed that once a direct route to being successful was given, he felt like he could accomplish the task. This student’s change gave insight into how a student’s personal psychology plays into their motivation and achievement.

After Australia, a small kindergarten through eighth-grade school, in West Saint Paul, offered an intervention and a special education teacher position. The student

population at this school was predominantly Latinx and African American. This school was unique and provided many enlightening moments. For example, there was an 8th grade English class that had a lot of very difficult students. Many of them had IEPs and 504's. The majority of the class expressed task avoidance and exhibited an extreme lack of motivation. It was difficult to get any of the students to participate or turn anything in. The majority of the time, the students ignored their teacher, moved about or left the classroom just to avoid all contact with the required task. Even though they had a very passionate teacher, this class never improved. The students were unresponsive to any actions that she took. In fact, it was her experience that led to this project and the desire to learn how teachers can drive change so that the students are motivated and believe themselves capable of success.

Rationale for the Project

Each of the experiences narrated above, bring us back to the purpose of the project. *What drives students' motivation to achieve and what steps can be taken to develop a growth mindset in students?* These experiences gave valuable insight into the problem. There is an urgency to this problem because it has affected all different schools, locations, and student populations. The narrative of these experiences has shown that in order to improve the experiences of students and teachers, an understanding of student psychology, community practices, and teacher strategies need to be researched.

A goal of this project was to teach educators how to instill a growth mindset into their students. Programs that have used Carol Dweck's theory of mindsets, a concept based on mindsets have seen considerable success (Dweck, 2012). Such programs have

shown that students with a “growth mindset believe that intelligence, personality, and abilities can be developed, whereas people with a fixed mindset believe that these basic qualities are static and unalterable” (Rissanen, Kuusisto, Tuominen, & Tirri, 2019, p. 204). Dweck’s theory could be applied through different interventions to help students become aware of their mindset and how it was affecting their abilities (2012).

Along with interventions, a deeper look of the school community, teacher training and school pedagogy should be taken, to see how the students’ educational environment has affected their ability to have, or create, a growth mindset. Cheska Robinson (2017) considered this idea in her article, “Growth Mindsets in the Classroom”. Robinson said, “building a classroom culture of growth mindset changes how students approach learning and helps them develop strong work habits that lead to achievement and success” (2017, p. 1). Implementing these changes might help a student to have more positive interactions with their peers and teachers, which would, by extension, make them feel more capable and motivated in the classroom. Additionally, teachers who have helped students develop a growth mindset help students to recognize their potential to push through challenges and achieve success.

Summary

There have been many different experiences in the classroom, both as a student and as a teacher. In youth, dyslexia and ADHD made it difficult to remain focused and determined. Yet for as much as these were a struggle, they helped to show the adversities that many current students face and how to better tailor pedagogies and expectations for them. Time as a substitute and teacher has shown that no matter which school,

demographic, age group, or ability range, a considerable amount of students struggle to stay motivated in the classroom. Many students have procrastinated, let fear stop them, and shied away from challenges. These are major issues and the educational system needs to find a way to promote growth mindsets, so that students can overcome adversity and raise their self-efficacy.

The following chapters outline the major aspects of the project. In chapter two a literature review took an in-depth look at motivation and growth mindset. The first major portion of the review covered the psychology of the mind and how students are motivated. Lastly, the literature review compared the different methods of research, both qualitative and quantitative, to explore different curriculums, interventions, and teaching programs that could be used to promote a growth mindset. In chapter three, the research was adapted to create a project that can be applied to a school's curriculums and communities. This project outlined a pathway to changing school policies and pedagogies, that helped students learn and commit to a growth mindset. Finally, chapter four reflected on personal progress, reviewed the limitations or implications and discussed any potential benefits to the profession.

CHAPTER TWO

Literature Review

Introduction

This chapter, the literature review, sought to answer the question, *what drives students' motivation to achieve and what steps can be taken to develop a growth mindset in students?* The literature review broke down the question into five parts: psychology of motivation, the impact of environment on mindsets, interventions to improve motivation, implementing those changes, and a review of the differences seen across cross-cultural communities, especially those of color.

Part one of the review explored the two psychological aspects that create motivation: grit and growth mindset. Each of these concepts gave clarity on what needs to exist in order for motivation to become realized. The second part examined how mindsets can be affected by the influence of teachers, parents, peers, and the individual. This section gave powerful insight into the importance of structured feedback, linguistic cues, and stereotype bias. The third part segwayed into recommended interventions, both short term and long term and compared the benefits between the two. Each subsection looked at different approaches researchers used to change the mindset of a student and how to better support the students' attainment of this mindset. The fourth part of the review, described how these interventions were implemented in schools. It explored teacher training, instruction, community reform, and learned from past classroom implementations. Finally, the fifth part of the review took a small, but significant, tangent

into cross-cultural psychology and discovered how student achievement and motivation is different for students of color.

How Motivation is Shaped by Grit and Growth Mindsets

The expectations of teacher and student achievement are rising. In order to be deemed successful, teachers and students need to have achieved the best test scores, maximized their learning potential, and prepared long term goals for their education. Many students have had a difficult time remaining focused and resilient during their academic challenges. Some have let judgment, ego, and self, change their perspective on what they are capable of achieving. To better understand why this happens to students, two aspects of motivation, grit and growth mindset, need to be analyzed. Research promoted using these two practices because participants have demonstrated an increase in ability to be successful in personal, professional, and emotional aspects of their lives (Dweck, 2012). Applying these types of motivation to an individual's psychology helped educators to understand why students respond to challenges in different ways.

What is Grit?

The term grit was created by psychologist, Angela Duckworth. She defined grit "as perseverance and passion for long-term goals ...working strenuously toward challenges, maintaining effort and interest over years despite failure, adversity, and plateaus in progress." (2007, p.614-615). Grit was an important factor to success in education because it helped students create long term goals and persevere through their challenges. In fact, Tang, Wang, Guo, & Salmela (2019) have suggested that students'

who have grit are more likely to be committed to their education and have a higher potential of achievement.

Duckworth's research found that grit is not connected with intelligence, rather maintaining focus and dedication were stronger precursors for perseverance (2007).

Duckworth (2007) also cited that while postsecondary education and grit were connected, this was usually the result of a person's ability to use their grit to reach higher levels of education. This information was important to her study because it suggests that if grit is taught, the achievement of students could increase. Therefore, a student has the potential to recognize how their inability to persevere has interrupted their achievement and prevented them from learning and completing their goals (Duckworth, 2007).

An important thing to note was that grit is not commonly used as a base for studies on improving student achievement and motivation. A part of this might be due to it being a relatively new concept, and studies are just beginning. Grit was an important idea to look at because it does have a strong connection to growth mindset. Grit has been described as a "mediator in the relationship between growth mindset, goal commitment, and academic outcomes"(Tang et. al, 2019, p.850). Grit and a growth mindset are intertwined and both must exist in order to have the motivation to achieve. A student with grit and a growth mindset would not only be able to approach learning as a process but would also be able to persevere through any challenges that would accompany this learning, so that they may continue to make progress (Tang et. al, 2019).

What is a Growth Mindset?

Just like grit, mindsets are factored into how an individual approached their learning and the way they viewed a task. Haimovitz and Dweck (2017), elaborated on the idea of a growth mindset and its origin in their article, “The Origins of Children’s Growth and Fixed Mindsets: New Research and a New Proposal”. They claimed that “implicit theories or mindsets”, based on Dweck’s previous research article, “Mindsets and Human Nature” (2012), explained brain malleability. Haimovitz and Dweck (2017) stated that Dweck’s concept of mindsets demonstrated how people have a continuous capacity to learn. In her original article, Dweck explained that a person with a fixed mindset believed that they are incapable of learning and actively avoided challenges (2012). She also explained that the opposite of a fixed mindset, a growth mindset, was when someone felt that they are capable of learning and were committed to their goal of learning, despite difficulties (Dweck, 2012).

Many have wondered if mindsets are intrinsic or not. Scientists have looked deeply into how mindsets correlate with human nature and if changing one’s mindset can change their behavior. Dweck (2012) also looked into these correlations and found that mindsets are crucial to a person’s behavior. Dweck made this connection through her analysis of the Israeli and Palestinian conflict. She found that when the subjects were given evidence that people are able to change their beliefs and behaviors, they were more compassionate to the other side's beliefs and perspectives (Dweck, 2012). Dweck’s research was fascinating as it could correlate with students who are having issues with anger, aggression, and despondence.

Haimowitz and Dweck's (2017) research also looked into ways to improve student achievement and mindsets and found that "the two mindsets orient students toward different goals, different views of effort, and different reactions to setbacks" (p. 1850). For example, a student with a growth mindset was more likely to correlate a bad score on a test, with a lack of effort in learning, rather than an inability to understand or complete it. Whereas a student with a fixed mindset was more likely to see a setback as a personal attack on their ability and mental capacity. Thus having caused their helplessness, avoidance, and poor behaviors to arise. This was why Haimovitz and Dweck stressed the importance of a growth mindset. They claimed that having a growth mindset increased the students dedication and academic success (2017).

Growth mindsets and grit, are important concepts to review, as they demonstrate how a student's behavior can affect their potential academic success. Grit helped students to remain steadfast when they encounter challenges in their long term goals. A growth mindset was just as important as it allowed students to learn that they can adapt, improve, and change. Through grit and growth mindset students were motivated, set lofty goals, adapted to their beliefs, and worked tirelessly toward success. Unfortunately, grit and growth psychological concepts are connected to many other facets and influences. Therefore, in order to fully answer the research question, *what drives students' motivation to achieve and what steps can be taken to develop a growth mindset in students?*, the review has to go beyond these two concepts and look into how they are affected by the people around the student, specifically giving attention to the teacher, parent, peer, and self.

Teacher, Parent, Peer, and Individual Effects on Motivation

People are influenced by their surroundings. The environment where someone was raised can affect their view of their potential and their value of their education. In all types of environments, people can be inundated with negative linguistic cues and attributions of their shortcomings. Even if unintentional or informal, these suggestions about someone can damage one's confidence, aspirations, or mindset. Hamovitz and Dweck's research results proved this, as it showed that an adult's conceptualization of a child's abilities affected how the child perceived their own abilities and potential (2017). Their study prompted the need to look into the key factors in a student's environment: teachers, parents, peers, and the self.

Teacher

The potential of a teacher's influence has prompted many studies to look into how teachers' feedback, linguistic cues, and teacher bias affect students' achievement and motivation. These studies have recognized how these interactions have become a critical component in a child's development. The study "Teacher Attributions of Student Failure and Teacher Behavior Toward the Failing Student", supported these assumptions and found that a teacher has about a student, is commonly what determines that student's behaviors. The study claimed that these assumptions affected the teacher's style of communication, as well as the standards that they held the student to (Georgiou et. al, 2002). The teacher's negative communication and expectations were heightening the behavioral problems of the child

Georgiou, Christou, Stavrinides, and Panaoura (2002) study also claimed that even though many educators have growth mindset related skills they are not passing these skills onto their students. Georgiou and associates explained that this was because the actions of the adult were not based on conferring a mindset, rather it was based on reaction to a student's behavior (2002). Haimowitz and Dweck (2017) were able to expand on this and explain that an adult's belief on motivation can supersede their training and logic and change their behavior or justify their logic. For example, if a teacher thinks that a student was capable, their expectations for that student were higher and their discipline was more lenient. Whereas, when a teacher deems that a student was incapable, they were less likely to hold high expectations and have patience for poor behavior.

Georgiou, Christou, Stavrinides, and Panaoura (2002) research explained why this happens in teaching practice, by explaining that teachers' reactions to students' behavior falls into two categories: perceived uncontrollability and perceived controllability.

Perceived uncontrollability gives rise to sympathy, which in turn promotes the commitment to help. In contrast, perceived controllability elicits anger and anger then leads to the withholding of help. Teachers who perceive the causes of student failure as uncontrollable may express more commitment to help the student than when the causes of failure are believed to be controllable. (Georgiou et. al, 2002, p. 584)

These reactions to student behaviors were unfortunate as it prevented a lot of students, who struggle, but care, from succeeding. The teacher has shut out the possibility of the

student's success and achievement until they are no longer motivated to help and encourage these students. Such actions by teachers were tragic, as it furthers the cycle of students falling behind and losing hope on their learning and success.

The communication of a teacher was just as influential as teacher biases and behaviors. Two articles, one article by Cimpian, Arce, Markman, and Dweck (2007), and the other by Hamovitz and Dweck (2017), pointed to communication, whether it is written or verbal, as being a crucial part of a student's success. Both articles cited that feedback was a double-edged sword and had the potential to hinder a child's learning. Hamovitz and Dweck found that there are two typical types of feedback or praise (2017). The first was person-centered praise, also known as personal praise, and the second was process praise. For personal praise, the teacher was focusing mainly on the student and how their intelligence caused the outcome of their assessment. This type of praise was usually communicated by "good job!" or "you did this wrong". Cimpian and associates categorizes this style of feedback as generic (2007). They denounced this style of feedback because it was harmful to a child's self image and made them feel like their mistakes were a reflection of their abilities (Cimpian et. al, 2007). This type of feedback correlated intelligence with performance.

Hamovitz and Dweck (2017) recommended that teachers used process praise feedback instead, as the teacher was communicating the process of how the student was able to learn new material, rather than how their abilities were reflected in their process. This style of feedback was similar to "ok so you did steps 1-3 correct, well done, but here on step you accidentally forgot to carry the one. That is okay, just when you try it again,

make sure you look carefully at this step”. The feedback was in depth and did not judge the students’ intelligence, it judged their process. The reason that it was important to think carefully about the feedback that teachers gave to a student was that it caused helplessness, subject avoidance, and lack of motivation in future assignments or subjects. Haimowitz and Dweck’s (2017) research found that students who received personal related feedback were more likely to feel like their intelligence and ability was being questioned, which caused feelings of helplessness and dejection. Whereas when a student received process-praise they were more likely to be more motivated (2017).

Parents

Much like teachers, parents have influence over their child’s development. Parents also have a growth mindset but are not able to pass it onto their child. Again, researchers suggested this was the result of communication or discipline of the child. The reaction of the parent, to the action of the child, shaped the mindset of the child. Researchers again found it more important to look into the praise and feedback. Obviously there are some differences in the communication between a parent and teacher. Not only was there a closer bond, but there were some intrinsic connections that do change the reception of feedback and praise.

When looking into how the communication from a parent affected a child, many researchers looked at how the parents’ behaviors were passed along. Paul E. Jose and Marisa A Bellamy’s (2012) study found that when a parent reacted to a child’s abilities in a demeaning way, the child processed their reaction and adjusted their behavior accordingly; thus causing a change in how the child approached a task. Jose and Bellamy

took this further and explained that a parent's feedback and direction during their child's struggle shaped the development of the child's self-esteem and initiative (2012). This feedback took shape through mastery or performance oriented mindset. These mindsets were similar to when a teacher gave a student process or person related feedback.

In Jose and Bellamy's research, they describe how damaging the performance mindset can be to a child's engagement and motivation (2012). They noted that mastery oriented mothers were more likely to give compassionate feedback, that was designed to show their child a different way to approach their challenges. In comparison, their research also showed that performance-oriented mothers were less encouraging and were more willing to let their child shy away from a challenge and blame the resignation on the child's abilities (Jose & Bellamy, 2012). The difference in these reactions was a major factor in the development of their grit and growth mindset.

In the same vein as feedback, the praise that a parent gives to a child can be just as damaging to the development of their child's motivation. Similar to teachers, researchers categorize the type of feedback to generic, person-oriented praise and process-oriented praise. Cimpian et al., found that "generic praise may lead children to think in trait terms, such that later mistakes could signal negative traits or low ability and therefore undermine motivation" (2007, p. 315). Cimpian et. al's study also noted that children who received more superficial praise were more likely to give up during difficulties, than their counterparts (2007). Their research suggests that generic feedback can once again undermine the motivation and self-confidence of a child. If the feedback that they are receiving from their parents makes them feel less equipped to handle and

persist in challenges, it is likely that their motivation to achieve would be significantly lower than their peers.

Peer

Research has found that the influence of a student's peers was not based on feedback or praise, rather it was based more upon competition and ego. While some competition can be motivating to students, Colleen R. O'Neal, in her study "Peer Grit: Influence on Later Individual Literacy Development of Dual Language Learners", cited that a student's motivation and classroom engagement was actually dependent on the collective behaviors of the classroom or group (2018). Meaning, the drive to fit in with one's peers was more influential than an individual's goals and can inhibit the individual motivation or achievement of a student. She also mentioned that grit was strongly tied to students who were able to maintain their individual aspirations. O'Neal stated that students who demonstrated grit and were able to maintain their long term aspirations were able to remove themselves from the pressures of their friends (2018).

Another study, by Ruth Butler, studied peer influence from a different perspective. Butler claimed that some students, no matter the circumstance or peer influence, will remain dedicated to their education (1999). Butler conducted a study to test her theory. She set up several activities that were task based. She chose to use task based activities because the step by step process eliminated competition with other students (1999). Her findings suggest that the educational system was set up to measure the success and intelligence of students, rather than effort and learning based tasks. She

found that task based assignments were hard to initiate, because many teens still feel that they need to compete with their peers and achieve society based standards (Butler, 1999).

Individual

The individual psychology of motivation was significantly more complicated because it was the makeup of the teacher, parent, and peer influence. Even if an individual was born with intrinsic motivation, their environment changed the outcome and perception of their abilities. Ruth Butler (1999) tried to explain how the self was intertwined with motivation. She said that a person could not know what they were capable of, unless they worked to challenge themselves and stretch their capacity (1999). Research has shown that defensive pessimism or task avoidance were the most common approaches to an individual limiting their aptitude.

Before one can get into the reasons for task avoidance and self-sabotage, they have to recognize that there are four different types of learners. This categorization of learners was founded by Krista De Castella, Don Byrne, and Martin Covington (2013). Their study found that the first style of learner was an optimist. This person had a low fear of failure and orientation of high success. They were someone that sought challenges and effort based learning. The second learner was an overstriver. This student had a high fear of failure and high success orientation. Commonly this student felt a lot of anxiety around achievement. They wanted to do well and put in the effort to do so, but they were looking for self-gratification rather than learning. The third learner was a self-protector. This individual had a high fear of failure and a low success orientation. This student was someone that would let their anxieties prevent them from completing work or preparing

for tests or projects. Finally, the fourth learner was a failure acceptor, who had a low fear of failure and low success orientation. This student was someone who had low self-confidence in their ability and frequently avoided tasks (De Castella, Byrne, & Covington, 2013, p.863-864).

Each of these manifestations of a learner brought about two very important ideas about an individual's learning. The first theory was called the self worth theory. This theory explained how an individual creates their perception of their abilities and how this self image was then applied to their social-emotional makeup (De Castella, Byrne, & Covington, 2013). This theory gave an explanation for why students were perceived as lacking motivation. If a student felt that they were capable, they were more likely to participate in an assignment. Confident students matched profiles of learners one and two, even though learner two had a higher level of self-doubt. In comparison, if the student had not felt capable, this student projected a persona that deflected the attention away from their insecurities or abilities (DeCastella, Byrne, and Covington, 2013). These strategies were commonly used by learners three and four. They adopted certain strategies to avoid working, thus looking unmotivated.

This self-worth theory further tied into defensive pessimism, which was a version of task avoidance. Defensive pessimism was typically seen as a deflection strategy in which the person verbalized their weaknesses and used that to dismiss responsibility for lack of motivation or achievement (De Castella, Byrne, and Covington, 2013). This behavior was damaging to a students ability to achieve, because it limited their ability to apply themselves. It was a vicious cycle, as it caused students to fail behind so much that

by time they needed to apply themselves, they were lost and unable to catch up. It was important to recognize these behaviors in students, as it was usually one of the main reasons why a student was perceived as being unmotivated.

There were many influences that affected the motivation and achievement of a child. Psychological studies have shown how an individual was influenced by outside sources. Teachers and parents were a huge influence in the development of a child. Their verbal cues and feedback easily altered a child's perception of their abilities and intelligence. Moreso, a child's peers also complicated their learning environment, by adding social pressure to conform and ego related competition. Finally, each of these influences manifested in the self image of the student, which led to the use of negative avoidance strategies. This analysis of psychological influences on motivation, helped to give greater clarity to the first part of the question, *what drives students' motivation to achieve and what steps can be taken to develop a growth mindset in students?* The next section moved to the second part of the question and explored some strategies that have been used to intervene and improve motivation.

Interventions and Pedagogies

Now that a greater understanding of the psychology of motivation and mindset has been established, the next step was to look at how schools and researchers have worked to improve the mindsets of their students. The approaches that dominated the field were short and long term interventions, social-cognitive pedagogy, community reform, and teacher training initiatives. Depending on the method and implementation, these interventions were anywhere from one hour to a year long. While the most popular

of these approaches were short and long term approaches, research has also found the other methods were just as credible.

Short Term Interventions

Short term interventions were typically done in a one-shot fashion. These interventions were conducted through a large group meeting, an online lecture, or classroom worksheets. The popularity behind short term interventions was based on the idea that long term interventions were not always conducive to school schedules and took away from necessary learning time (Debacker et. al, 2018). Schools wanted to make sure that they were balancing the effectiveness of the intervention, with the amount of time that was taken away from learning. Yet, regardless of being short or long term, nearly all interventions were intended to target the psychology of the participant. The interventions helped the student learn more about how the brain works and how it was a malleable organ that can improve over time.

The basis for many short term interventions were seen in DeBacker, Heddy, Kershen, Crowson, Looney, and Goldman, (2018) study called "Effects of one-shot growth mindset intervention on beliefs about intelligence and achievement goals". Their study was focused through previous intervention research by Yaeger and Walton (as cited in DeBacker et al., 2018). In their study, Yaeger and Walton used self-persuasion as a technique to align with the individuals personal beliefs and goals, which helped students to see the benefits of the intervention personally (as cited in Debacker et. al, 2018). Their study relied heavily on students creating a letter, for another student, about the ways that their brain works and how they could change their mindset. Yaeger and Walton (as cited

in Debacker et. al, 2018) felt that this process would be an effective way to persuade the student, as the student had to figure out a way to persuade someone else.

In addition to the letter, Yaeger and Walton's intervention had "three elements: a lesson, a comprehension check, and a self-persuasion task" (as cited in DeBaker et. al, 2018, p. 718). For the lesson, students were given scientific information about how the brain works (2018). They gave students information that helped them break their stereotypic thinking of intrinsic intelligence. Following the lesson, students were given a comprehension check, which was composed of a six-question worksheet. The students had to write their answers via writing and illustrations. These worksheets were meant to check their understanding on the articles on brain plasticity. Finally, following the comprehension check students created the aforementioned letter. The results of the study were promising. Debacker's use of Yaeger and Walton's intervention showed that small scale interventions were not only successful, in that students gained knowledge about brain plasticity, but also helped to decrease task avoidance behaviors (2018).

Long Term Interventions

Even though short interventions were proven successful, some researchers believed that the effects of the intervention would not have the same lasting effect in the future. That was why many researchers used longer intervention, where they could follow the progress of a student over the course of a month to several years. The set up of long term interventions usually mirrored their short term counterparts. Most of the time they were conducted online or through a base class. Then over the period of a couple of weeks

students took pre and post evaluation tests, to see if there had been an improvement to their mindset.

A good example of a long shot intervention was conducted by Yeager and associates (2016) in their study called, “Using Design Thinking to Improve Psychological Interventions: The Case of the Growth Mindset During the Transition to High School”. During this study, they wanted to create an environment where the students felt safe and willing to participate. This was important, as they wanted to separate themselves from prior research and focus on the needs and environment of the student. The relevancy to their environment was critical because studies had shown that when students could relate to the information, the potency of the intervention would be stronger. Yeager and associates (2016) focused their project around “user-centered design”, in which “the researchers used those responses to formulate changes for the next iteration” (p. 375). This ensured that they could see the clear outcome of how their brain altered after the intake of information.

Yeager and associates’ study was formed into two sessions, each session four weeks apart, in a computer lab (2016). In the first session they conducted baseline surveys. The second session then took that content and applied it to their survey materials. After the surveys, they challenged students to create a math worksheet, in which they were able to choose the level of difficulty. Once they completed these tests, they then had to complete another student’s worksheet. Again, they were given the choice of a hard or easy worksheet. The reason they had students make and take math tests, was to see the level of challenge that students were willing to apply themselves to, following

the study of brain plasticity. This intervention was deemed successful as students claimed that they felt more capable and that they would choose the harder math worksheet compared to the easier one. Their studies also showed that this intervention was able to improve course grades for struggling students. This experiment showcased a couple key learnings. First, it was important to create a safe environment where students find meaning and value in their work as this leads to motivation. Second, this study showed that improving a student's perception of their own capabilities, over a long length of time, was possible (Yeager et.al, 2016).

Comparison of short and long term interventions. While both studies were effective, it was important to do a comparison between the two. Fortunately, David Yeager and Gregory Walton (2011) produced a review called “Social-Psychological Interventions in Education: They’re Not Magic”, as a way to review the long term effectiveness of interventions. In their research, they looked at major studies by top famous researchers like Blackwell, Trześniewski, and Dweck, where they deduced that interventions were not a cure-all for reform. Yet, they did suggest that these interventions still played a vital role, as they enlightened students to their potential to learn and grow through the reform (Yaeger & Walton, 2011). Their synopsis said that interventions, regardless of being long or short term, were helpful in changing the mindset of students (2011). It was recommended that these interventions were combined with education practice reform, to ensure long term equitable change. The study of these interventions took a step toward answering the question, *what drives students’ motivation to achieve and what steps can be taken to develop a growth mindset in*

students?. However the explanation of interventions was only the surface of possible ways of how to improve student motivation. Teacher instruction and pedagogy were also viable options. In the next section, the review took a look at how we could implement this change via pedagogy development, teacher instruction, and community reform.

Implementing Change in Teacher Instruction and School Community

While interventions were proven to be successful in enlightening students to the psychology of learning and informed them on corrections that can be made to their practice, these improvements needed to be supported by administration and staff. This support included training in mindset pedagogical practice, teacher development on adapting their instruction, and ways to implement community reform. Guidance and support in these areas would exponentially increase the ability for motivational change to take hold in their school.

Teacher Training

Proper teacher training was very important as it led to stronger classroom communities, more engaged students, and higher achievement scores. The same logic was extended into teacher training for growth mindsets. Growth mindset teacher training was an issue that Megan D'alessandro tackled in her study. D'alessandro found that teacher training was an essential part of improving students' motivation (2016). She stated that training courses for teachers helped educators learn how to apply new methods in the classroom that facilitated and supported growth mindsets. She also cited that the best way for teachers to learn new methods was to give demo lessons to their colleagues, both as a way to practice, but also as a way to gain feedback from their peers.

D'alessandro (2016) found that this style of professional development was helpful as it taught them new methods of teaching, a better understanding of growth mindsets, and gave them a chance to reflect on their own practices.

Fiona S. Seaton's (2018) study, "Empowering Teachers to implement a growth mindset", also supported the claims made by D'alessandro. Seaton's research stated that teachers needed to establish their own concept of growth mindset in order to effectively teach it to their students (2018). Seaton also found that the six session training study promoted long term change and pedagogy practices (2018). Each of these studies have shown that teacher training helped them to develop their practice and mindset beliefs. They became aware of their own reactions and mindsets and how it affected a student's learning.

Instruction, Communication, and Pedagogy

Along with teacher training, growth mindset pedagogy should also be implemented. Pedagogy development focused on shifting the instruction and communication of the teacher. The use of proper and effective communication was extremely important in the classroom. The feedback and linguistic cues that the teacher gave were very influential to students' development. Teachers needed to make sure that their communication was process based, not person based, as to ensure that criticism was passed only on effort not on the individual (Truax, 2018).

Megan Truax's (2018) study put the practices of teacher feedback into practice. She focused on students that struggled to write and those who tended to avoid writing. It was important to look at her study, as it gave an insight into how motivation pedagogy

could be applied to a diversity of subjects. The first suggestion she gave was to have conferences with the students, as this created a positive space to give feedback. The teacher's role in these conferences was to sit with students and give process based feedback on assignments in order to outline goals and places for students to improve their work. Her writing practice session brought teachers through a professional development session to ensure that all teachers were prepared to implement proper growth mindset strategies. The results of her studies showed three important things: “(a) specific objective feedback about students’ writing choices positively impacts writing motivation, (b) correcting, criticizing, and drawing attention to mistakes undermines students writing motivation, and (c) students’ writing motivation is enhanced by growth mindset feedback” (Truax, 2018, p. 136-147). The data showed that the style of feedback and communication was key in sharing growth mindsets.

Aside from writing specific studies, other studies looked into more broad ways to help students improve their growth mindset. An article, by Cheska Robinson, promoted several growth mindset practices that teachers implemented in their classroom (2017). The first thing she recommended for her teachers to do was teach their students about how the brain works and how information was absorbed. She claimed that this helped students to understand their learning process and recognize that their intelligence was not fixed. The second recommendation was to make sure that the learning environment and activities were engaging. She claimed that these practices helped the student to absorb and interact with the information better. Robinson (2017) recommended having the students review the activities of the day and jot down everything they learned.

The third practice to implement was to have the teachers publicly accept their mistakes. This was important, because when students recognized that failure was a part of learning, they were more likely to pursue challenging subjects and not worry about failing (Robinson, 2017). The fourth piece of advice was to make sure that language was positive and clearly communicated the objectives. This changed how teachers framed problems and challenges in the classroom. The new communication strategies guided the students through the process of learning. The final strategy was to make sure that teachers promoted and encouraged positive self images. Teachers encouraged students to change their negative comments and find a more positive way of looking at things (Robinson, 2017).

A third study sought to develop an effective pedagogy for teaching. The majority of their work was focused on creating process-focused teaching, which helped students to focus on incrementally learn the material (Rissanen et. al, 2019). Their pedagogy was focused on four aspects of teaching: accepting individual learning strategies, encouraging students to accept the process of learning and accept any mistakes that might come with it. To support a student's individual learning strategies they found that a teacher should avoid stereotyping, frequent one-to-one interaction, and learn about an individuals' barriers. The teachers needed to guide students to recognize that learning was a step by step process and that it was beneficial to their future (Rissanen et. al, 2019).

Community Building and Reform

The key to creating a strong growth mindset in schools was to focus on the existing community and culture. In order to enact all of the aforementioned interventions,

training, and pedagogies, schools also needed to advocate for community building and reform. This started with leadership and became a core value displayed by every member of the school. Ian Andrew Guidera (2014) dissertation described how he was personally able to implement this in his school. Guidera (2014) listed several ways that he found success in his journey. The first was to ensure that teachers were facilitating and advocating for reform in the classroom. Teachers needed to encourage the students to focus their studies on their interests and style of learning. Guidera suggested that this was combined with proper teacher training on “threats to performance and achievement”, such as “stereotype threats and intelligence mindsets”, because this ensured that teachers were not limiting the potential of their students in the classroom (2014, p. 70). Guidera also stressed the importance of administrative support and teacher education, as this ensured that reform practices were upheld (2014).

The second part of his study showed that in order to change school culture norms, teachers needed to actively encourage students to pursue challenges (Guidera, 2014). Guidera (2014) insisted that teachers needed to make sure that they continuously pushed students forward to increase their learning potential. As well they needed to normalize failure so students understand it is a part of learning. Guidera described failing forward, which was meant to show that within any failure lies the opportunity to learn and the opportunity to be stronger than if they had succeeded. Finally, Guidera suggested that along with teaching students to welcome failure, teachers need to provide structure to their learning that will help them to see steps forward (2014).

It was clear to see how student motivation and achievement were improved through community reform, teacher training, and instruction modification. Even though these changes required consistent monitoring and practice, each of these reforms showed long lasting growth and achievement. Research on interventions, community reform, and teacher training answered the research question, *what drives students' motivation to achieve and what steps can be taken to develop a growth mindset in students?*. Each of these educational changes showed all of the viable ways to help students to obtain a growth mindset and motivation. The following sections looked into some shortcoming of the research, as well as an analysis of how growth mindsets were applied cross-culturally.

Shortcomings in the Studies

As with any research, it was important to look back and reflect on the areas that needed to be improved. Even with all of the progress that this research has made, there were still some things that these studies bring to light. The first was that all teacher preparation programs needed to be extensive and supported by administration. If teachers were not supported, it was unlikely that they persisted and accurately taught growth mindsets. This was a major part of Guidera's (2014) study, as he found that in order to attain the highest level of growth mindset accrual, administration needs to continue monitoring and supporting teacher progress throughout the school year. Without training and proper leadership planning, the change from low to high in growth mindset was minimal.

Another aspect that needed to be considered in the breadth of the research studies was that most studies only focused on students of European or Asian backgrounds.

Research on First Nation peoples, African Americans, African nations, Latin Americans, South American nations, was very minimal. By not widening the scope of research to include multiple cultures and ethnicities, research was limiting the understanding of mindsets. To better explain how research has been limited, the following section explored the perspectives and interventions for students of color (King et.al, 2017).

Cross-Cultural Analysis and Perspective

The limitation in research was unfortunate, as it made it difficult to gain an accurate perspective on the mindset issues that students of color and diverse cultures faced in their education. Fortunately, there was some work underway by dedicated researchers that promoted this disparity and studied multiple ethnicities and cultures. The majority of these studies found that the motivational issues were not limited to school, teachers, parents, self, and peers. The systematic discrimination of students of color within the education and research system, were also a major factor. The mindsets and grit of students of color were largely affected by a narrow assumption of goal type, a lack of diversity inclusion in activities, and persistent stereotype bias (King et. al 2017).

In most mainstream motivation studies, researchers focused on the difference of mastery and performance goals. A mastery goal was when a student put a significant amount of effort and learned as much as they could about a subject. Whereas a performance goal, described a student that was just trying to receive the highest validation for their work, regardless of effort or learning potential. Unfortunately, the study by King, McInerney, and Nasser (2017) found that these goals were limiting the concept of motivation for many communities of color. These researchers instead felt that

their “personal investment theory” was a more viable explanation to motivation. King, McInerney, and Nasser’s (2017) theory argued that a root motivator could also be an individual’s own interests and strengths. They felt that these personal interests should be factored in because some students may appear to be unmotivated, but in actuality they were just motivated toward different goals and objections. King, McInerney, and Nasser’s (2017) theory allowed for social and extrinsic goals to be factored into motivation, which were to major motivators for students of color.

A similar study by Avi Kaplan and Martin L Maehr (1999), suggested using a similar theory called achievement theory, in which assignments had task goals. The goal was similar to King, McInerney, and Nasser (2017) in that it recognized the social deficiencies in the education system, which tended to exclude common motivators for students of color. Kaplan and Maehr (1999) study suggested that teachers adapt their teaching practice to diversify content and activities that would better align with imagery and practices from communities of color. Kaplan and Maehr (1999), found that these pedagogy changes made students of color feel like they had more control in their learning environment and increased their engagement, achievement, and investment in education. Their study found that such changes in pedagogy gave the much needed recognition to students of color and made strides in closing the achievement gap (Kaplan and Maehr 1999).

Along with the issues of diversity and social and extrinsic goal inclusion, students of color also faced the threat of stereotype bias. Stereotype bias or threat was when someone profiles another person's abilities based on their culture or traits (Kaplan

& Maehr, 1999). Kaplan and Maehr studies showed that many teachers felt that students of color were not as capable as their caucasian counterparts (1999). These biases were very damaging to students, as these biases changed the language and linguistic cues of a teacher. These cues often affected the students self worth and beliefs on their capability, therefore affecting the motivation and success of the student. Kaplan and Maehr found that many students of color felt that the stereotype biases caused anxiety as they felt that teachers' assessments propensited negative stereotypes (1999). Their studies suggested that if stereotypes were put aside, students of color could be genuine in their interests and mindsets.

The studies about cross-cultural mindsets and motivation demonstrated that there was still a long way to go, in research and pedagogy creation. Yet, research has illuminated that many of the traditional ideas of education and achievement, were not always shared by every culture. Additionally, the studies showed that an equitable education was possible if all goals and motivations were seen on the same plane. Teachers needed to make sure that they were not white washing their activities and were not promoting stereotype biases. These two factors disenfranchised students of color from the education and school community and made it harder to stay motivated to learn and engage (King, McInerney, & Nasser, 2017).

Cross Cultural Interventions

This type of intervention was specifically designed for students of color. Researchers Yaeger and Walton (2011), were able to summarize the importance of diversity based interventions by stating that social-psychological interventions, when

targeting students of color, needed to be based on how academic achievement was attached to a sense of self, and social adversity. Yaeger and Walton's article mentioned another researcher, Cohen, who conducted two different studies. Cohen's first study created an intervention to evaluate how students dealt with their self image, when it did not match the image of their peers (as cited by Yaeger & Walton, 2011). Cohen's study gave 7th grade African American students positive statements about the self and the student's learning ability. These value affirmations were done through writing exercises. Cohen's experiments produced positive results as it saw an increase in grades and some progress in closing the achievement gap (as cited by Yaeger & Walton, 2011).

In his second study, in which he partnered with Walton, Cohen studied college age African American students' social connections and self esteem at school. Students were asked to create a list of friends in their field (as cited by Yeager & Walton, 2011). Walton and Cohen's study found that students of all colors had some trouble creating their lists. In fact, Walton and Cohen found an exceptional difference between the black and white students. The white students did not have an emotional reaction to listing their friends. Whereas, black students had an emotional reaction as it made them recognize that their list included very few other African American students (as cited by Yeager & Walton, 2011).

In response to this research Walton and Cohen created an intervention that gave first year African American students information about social displacement and belonging (as cited by Yaeger and Walton, 2011). Participants were required to write letters to the following year's students, describing their successes and tribulations

throughout the school year. These letters were successful as it made the incoming class of students feel like they were not alone and had someone to turn to. In addition their study also showed that the grades of incoming freshmen remained high for at least three more years (as cited by Yaeger & Walton, 2011).

The cross cultural analysis and the drawbacks of diversity lacking studies proved that research still has a long way to go. There was always something more to be learned or another community needing to be included. It was important to recognize these shortcomings, as it helped to advance the study of growth mindsets and provided new ways to help our students. The analysis on students of color helped to answer the question, *what drives students' motivation to achieve and what steps can be taken to develop a growth mindset in students?*. Allocating specific research about students of color, ensures that their voices, which are typically silenced in research and education were heard. Moreso, a cross-cultural analysis provided viewpoints and types of interventions that have helped students of color attain a growth mindset.

Discussion

The purpose of this chapter was to explore the question of *what drives students' motivation to achieve and what steps can be taken to develop a growth mindset in students?* In the exploration, the psychology of motivation illuminated the discrepancies in how an individual's grit and growth mindset was established. Each of these mindsets established how a person learned, approached an assignment, and maintained a long term goal. The research found that these mindsets were extensively affected by the environment in which they were built. Teachers, parents, peers, and the self significantly

affected mindsets, mainly through communication and feedback. The research revealed that not all environments were the same and proper considerations needed to be given to the experiences of students of color. Thankfully the research demonstrated that environmental influences were rectified through proper intervention, teacher training, and community reform. The knowledge gained in the paper was used in the next chapter. The following chapter described a plan to combine community reform and pedagogical practice development, to help instill or correct a growth mindset in classes.

CHAPTER 3

Project Description

Overview of Project

Chapter three intended to take the learnings from chapter two and develop a project that could be implemented in schools. The literature review provided background information about the research question, *what drives students' motivation to achieve and what steps can be taken to develop a growth mindset in students?* The research elaborated on how growth mindsets were instilled and influenced through different environments. It also provided ways to intervene when students were struggling to maintain motivation and a positive outlook on their capability. In effort to apply these studies, the following project explored a program that combined community reform, teacher training, and pedagogy development, to create a large scale intervention for a school struggling with motivation and achievement.

The following chapter reviewed the project description, timeline, setting, audience and rationale for this project. This rationale was supported by previous research and dissertations that have sought to do similar adjustments to their educational community. This section discussed the three methods of intervention and why they were the best option for instilling and keeping a growth mindset focused community. The chapter concluded with the type of community that this project is designed for, the estimated timeline, and the probable setting.

Project Description

As mentioned above, this project was designed to do a large scale reform of a school community. This design included teacher training, pedagogy development, and new community guidelines. The project intended to begin with administration and teacher training sessions. Each of these sessions were meant to establish an universal understanding of growth mindsets, grit, pedagogical practices, and community reforms. The sessions were also created with students of color in mind. A portion of the training is dedicated to specific training and pedagogical development to support cultural norm differences. The sessions were also meant to provide time for planning the teacher training program and school year. The design of the project required that the administration team met first, as they were going to be facilitating the teaching training.

The next step in the project was to bring all the teachers together for a training session two weeks before the start of school. This training session was divided into eight parts, in which the staff were educated on the psychology of growth mindsets, the steps that can be taken to improve mindsets, and a planning, practice, and demonstration session. The planning, practice, and demonstration section of the training was designed to help staff prepare for the school year, by creating activities, styles of feedback, and demonstration practices that would be needed to implement a growth mindset. Following this section of the training, administration was required to walk staff through the outline for the remainder of the school year and what responsibilities that they were expected to complete.

The final part of the project had teachers and administration following up on their progress through the rest of the school year. These check ins were conducted through

retrospective meetings and observations. The observations were done by administration and staff half way through the year. These observations were not only meant to ensure that teachers were instructing with growth mindset pedagogy, but were also meant to create a place for feedback. As for the meetings, the length and time was shortened as the school year progressed. The main objective of the meetings was to provide a space for teachers and administration to check in and provide feedback on their progress. If changes needed to be made, the staff would discuss and plan how to execute these changes.

The logic behind this large scale intervention was to provide a school, where a high population of students was struggling with motivation and achievement, with the steps to correct and improve their community. Rather than have a short term fix, that focused on just one aspect of implementing a growth mindset, it was better to create a large scale version that ensured the sustainability of the growth mindset and prepared a community to support it. This project was envisioned to serve as an aid to teachers and administration that were struggling to inspire and motivate their students. This intervention was also created to provide teachers with a way of understanding student's psychology, as well as equip them with the tools to make a change.

Rationale for Project

The main reason that a combination approach was more effective for the project was that the development of mindsets and learning is never simple or from a sole experience. As research has demonstrated, the mindsets of individuals were “rooted in past experiences”, which determined, “an individual's locus of control and feelings of

competence towards achieving a task” (Seaton, 2018, p. 42). Thus, mindsets were difficult to undo in a simple manner. The behaviors of an individual were linked to multiple influences and in order to make lasting changes, multiple aspects of a students environment needed to work conclusively to propensiate change. Even Yaeger and Walton, expressed concern with a limited intervention. At the conclusion of their studies, they claimed that it was advantageous to add several reforms, to ensure that it is sustained and supported (2011).

The need for a combined intervention includes teacher training and mindset pedagogy development. Evidence for the combination of teacher training and teacher pedagogy development can be found in Fiona S. Seaton’s study “Empowering Teachers to Implement a Growth Mindset” (2018). She claimed that the positive influence of a teacher helped to make a difference in a student’s mindset. Seaton also stated that this first needed to come training, to ensure that teachers can expand their teaching methods and properly advocate for growth mindsets in their classrooms (2018). Seaton’s support was critical, as it supported that a large-scale intervention and both pedagogy development and teacher training are needed to be successful.

Community reform was also a necessary aspect of the intervention. Andrew Ian Gudierra’s (2014) dissertation supported the need for community reform. His study implemented growth mindset community interventions. His research showed that not only is top down support is key to success, but also that well established community practices were keys to a successful implementation of a growth mindset community. . Guidera (2014) suggested that a full scale community reform needs invested leadership

that ensures stability and congruence among staff. Leadership needed to be on the same page for pedagogy, student relationships, and projects (Guidera, 2014). His recommendations for a successful implementation showed that building community norms can help change mindsets.

Setting and Audience

This project was developed with a specific community in mind. This community had a large population of students that were testing at moderate to low on math, reading, and writing. A large majority of students were in need of title one or special education services. This was a kindergarten through eighth grade charter school with about twenty-five staff members and two hundred students. The school was relatively small and it was common for teachers to know the names of all of the students, regardless of their grade. The families were also strongly connected to the school, as each family usually has several children throughout the grades. The relationships between the teachers and the students and their families was strong. The school was also ethnically diverse. A large population of the students were of Latinx or African American heritage. The main audience of this project was the administration and staff. This project was designed to be a top down initiative, in which principals, vice principals, or executive directors are in charge of school reform.

The project was created to change a community where many of its students were struggling to complete assignments, participate actively, and remain organized. It was created to help students that were expressing work avoidance behaviors, because they were struggling with a limited understanding or a learning disability. The design of the

project made positive relationships between staff and students a critical aspect, as it made the meeting and training aspects easier. As well a limited staff was required as it made it easier to get everyone trained and organized for programming. The design of the project sought to examine how cultural norms can further exacerbate the perimeters and creation of a growth mindset. The project was not only aimed at a mindset intervention, but also as a way to learn how to adapt to cultural difficulties so that future interventions can be iterated on and improved.

Timeline

The large scale intervention and community reform was designed to take place over the course of a school year. Step one of the project required that administration meet one month prior to the start of teachers returning to school. The project required administration to meet on three separate occasions, once a week, for up to one hour to plan for project implementation. Planning and training prompts (see Appendix B), have been created to aid administration in their planning. During the first meeting, the administration would take an entrance survey (see Appendix A), go over the project schedule (see Appendix A), and review part one and part two of the teacher training Powerpoint (see Appendix C). During the second meeting, discussion around the training powerpoint will be completed. Finally, the third meeting was designed to discuss and prepare for the teacher training session and the remainder of the project.

Step two of the project was planned to be two full days of teacher training sessions (see Appendix C). These sessions were required for all teachers and took place two weeks prior to the start of school. On day one of the project, teachers started by

taking the same entrance survey as administration. Following the survey, teachers are led through the parts one through five of the Powerpoint slides. The remainder of the day was designated to planning to implement a growth mindset throughout the school year. On day two, the project resumed with a short planning session. Following the planning session teachers were to practice their plans solo and in a group. Once they felt comfortable, they were to give their demonstration to their peers. At the end of the training session, administration was required to cover the remaining staff duties for the project.

Steps three through seven were designed to monitor the progress of the intervention and teacher training progress. Steps three, five, and seven were planned meetings (see Appendix D) for all staff and administrators; only principals and vice principals are needed in these meetings. Each of the steps were used to mark a progression in meeting frequency. Starting at step four, teachers are required to meet twice a month for four months, this then progresses to once a month for three months for step seven, and then finally finishes at one meeting every other month for four months for step seven.

The change in the frequency of the meetings were meant to prevent teacher burnout. The meetings are designed to be retrospective, in which the teachers evaluate their students and their own performance (see Appendix F). At each meeting teachers are required to give their input on the project anonymously. Each meeting was designed so teachers can give their input anonymously through scales or surveys. Finally, time was allotted at the end of the meeting to discuss any desired changes to the program.

Steps four and six were created to give administrators and teachers a chance to conduct observations (see Appendix E). Step four was intended for administration and was meant to take place in the third month and completed before winter break. During step four, administrators are asked to conduct observations on all staff. Upon completion of their observations, they are then asked to provide feedback on how teachers can improve their practice. Step six was created for teachers and was meant to take place after winter break and completed before March. The teacher observations are similar to administrators'. Yet these observations again are meant to provide teachers with not only a chance to collect and solicit feedback, but also time to observe and collect ideas from other teachers.

Step eight was intended for the last day of school. This step only has one and a half hours of time allotted to it. During this time, students are asked to complete an exit survey, which is identical to the entrance survey (see Appendix A). This survey was designed to document the overall progress of students, staff, and administration, and collect their feedback on their reaction to the project. Once these documents have been collected, leadership needs to decide the effectiveness of the program and if any changes are needed for the following school year.

Each of these aspects were important to the success of the project, as it made sure that all sections of the intervention were accounted for and were given the appropriate amount of follow through. The repeated discussions and organization of community groups was important, because effective communication was the key to accurate results. Additionally, the check-in support and feedback of the teachers was important, as it

helped to extend the learning from the teachers' two day training and ensured that they are continuing agreed upon practices.

Summary

While the size and length of this project may seem overwhelming, research and studies demonstrated that the combination of many different interventions produced the best results. The main intervention, the teacher preparedness, the pedagogy development, and the community reform, each played their own role in correcting the type of environment and feedback that students were receiving. This correction was so important to many schools where, not only the staff were struggling to increase motivation and achievement, but the students were also struggling to push past their environment and realize the scope of their potential.

The exploration of this project and its possible shortcomings was continued into chapter four. This chapter evaluated the possible limitations of the project, as well as how this might interact with school policies. Additionally, chapter four revisited the literature review and looked at the most important discoveries and for places to expand the research. Finally, that chapter wrapped up with a discussion on how this project can benefit students and the profession.

CHAPTER FOUR

Reflection and Conclusion

Introduction

Chapters one through three sought to answer the question, *what drives students' motivation to achieve and what steps can be taken to develop a growth mindset in students?*. Chapters one and two looked into personal anecdotes on motivation, research on motivation, and studies that altered motivation. Chapter three described a project that strove to improve motivation, through proper teacher training and community reform. Chapter four continued this process and looked into the effectiveness of the project, major takeaways, and potential benefits to the profession.

Chapter four was broken down into several sections. The first section began by iterating the personal process of being a researcher, learner, and writer for this project. Following the personal connections, the next section returned to chapter two and made connections to the literature review. This review looked into the most influential pieces of research and how it was used to shape the other sections of the project. After the literature review connections, the chapter segwayed into the possible implications and limitation of the project. Finally, the chapter concluded with an analysis of how this project might be used in the future, how the results of the project could be communicated and how this project could benefit the profession.

Personal Reflection on Capstone Process

Familiarity with growth mindset and grit was very limited at the start of the project. In fact, there was no awareness of the term growth mindset until after research

had begun. Learning more about this term was extremely beneficial, as it created a label for my project and an avenue of research. Finding the term growth mindset, led to one of the biggest personal takeaways from the project, the psychology of motivation. It was fascinating to learn about how the mind develops and how our experiences shape our responses to challenge. Moreover, learning about how the influence of others' feedback and praise have the potential to shape another person's mindset, truly shaped my mindset as a teacher. This development helped to make connections to previous students' behavior and it correlated with their experiences.

In addition to learning about the psychology of motivation, learning about cross-cultural viewpoints on motivation was eye opening. Given the social landscape in which this paper was written, it was fascinating to learn about different cultures' approach, view, and value education. Especially, when these cultural differences and viewpoints shape individual interpretations of motivation. Having learned this aspect of motivation psychology expanded personal awareness of how to incorporate culture in the classroom and how to create a community of acceptance and appreciation. The background information gained on both of these aspects of learning has shaped future teaching and communication decisions.

Significant progress as a writer and a researcher was made, as well. While some experience was had, this project took another skill level to accomplish. Due to the length of the paper, more review of current literature, and topic expansion was required. Each layer of the paper had to be heavily examined, planned, and structured, before the next piece could be written. This took a new level of organization, review of literature, and

forethought that had not been previously encountered. Personal writing skills were also challenged, especially during program development. It took a lot to write in a proper format, with a consistent academic form, without straying from the end goal of the piece. Again, this took a level of forethought that was beyond previous experience.

Literature Review Research that Influenced the Capstone

Without a doubt, Carol Dweck's concept of mindsets, was the most influential piece of the project (2012). The information that she either personally provided, or wrote in conjunction with Haimovitz, provided the base for the entire project. The research of Dweck and Haimovitz demonstrated how influential mindset development was on the academic, personal, and emotional success of students (2017). It was their research that not only led to discovering more information about grit and motivational psychology, but also the information about interventions, teacher training, and community reform. It seemed that all projects were based off of Dweck's idea of mindsets and base studies.

Another crucial component of the project and literature review was the research of Jose and Bellamy (2012) and Cimpian and Associates (2007). Both of the researchers were influential in developing an understanding of communication and feedback. It was Jose and Bellamy (2012) who explained the difference between mastery and performance based feedback. Their research demonstrated that mastery based feedback was a better form of communication as it expressed to a student or child that they had just not yet learned the information, but still had the capacity to do so. Their study made connections into later research on teacher practices, as it showed the importance of expressing "not yet" to a student, rather than performance feedback, which would be expressed as

“never” (Jose & Bellamy 2012). Cimpian and associates’ research was just as influential as it expanded the understanding of feedback and explained the crucial need for process based feedback (2007). This style of feedback again focused on communicating to the student that learning was a process and that there are several steps to learning something effectively (Cimpian et. al, 2007). Their research was later connected to teacher training and pedagogy development studies like Truax (2018) and Robinson (2017).

Truax (2018), Robinson (2017), D’alessandro (2016), and Seaton’s (2018) studies were also extremely important to the development of the capstone. Each of these researchers provided examples of how to properly conduct teacher training and establish a growth mindset pedagogy. Several pieces of their research were used within the teacher training Powerpoints and project documents. Robinson’s suggestions on promoting mistakes, self love, and individual learning were key takeaways in the project and are fundamental aids in the teacher planning portion (2017). The work of Ian Andrew Guidera was also extremely important and was a study that connected most with the project (2014). His research on community reform demonstrated the importance for administrative support and proper planning. Guidera insisted that this was the make or break of a project and was the reason that so many pieces of support, observation, and meeting time were implemented into the program (2014).

Implications of Project

A significant portion of the project focused on changes to teaching pedagogy and community practices. The institution of these changes had the potential to greatly disrupt the flow of the classroom. The majority of adjustments were made in teaching practices

and activities. Specifically in the way a teacher approached assignment creation, class demonstrations, or individual student communication. Such changes caused the structuring of assignments to differ, as a greater emphasis was placed on the learning process. Therefore students could have experienced a rise in formative and participation based assessments, rather than cumulative summative assessments.

These changes also affected the demonstration and communication style. Teachers would now be required to put forth more step by step directions, as well as mock tutorials, demonstrating mistakes and moving on from them. Additionally, the communication during and following assessments, needed to be non-generic and process based. If a student was unfamiliar with any of these methods, assessment, demonstration, or feedback, their progress and responses in the class would have changed. This has the potential to cause emotional distress and lag to the progression of the program. Moreover, the trouble that project changes caused, could ripple into worried parents and community members. Their reactions could possibly have changed the communication and relationship that they had previously had with a teacher.

The same level of unfamiliarity with project changes could be extended into the community reform adjustments. Again, these adjustments changed the way that teachers and administration approached school discipline and communication. If the school was to be true to growth mindset they might choose to implement a learning and growth aspect to school activities or discipline. For example, if activities and discipline required students to reflect on ways to grow personally or how to promote growth in their community, administration and teachers would be required to delegate more time and

care, than previously accustomed to. Again, these adjustments had the potential to disrupt the flow of the community and cause friction between students and staff, as well as extend out to parents and community members.

Limitations of Project

The project's main intention was to improve the motivation and engagement of the students, as well as improve success and happiness of the teacher. Unfortunately, this was an unattainable expectation. While the project intended for every student to be successful, the project cannot help every student. Some students might exhibit some resistance to the program and fail to improve their motivation or task avoidance. Yet, the program was planned for this occurrence. All teachers are required to track the progress of the students and themselves monthly. If a teacher has marked a student as still having low grades, exhibiting task avoidance, or limited participation, the teacher was required to bring this to one of the monthly meetings. At the meeting the teacher was given time to confer with their colleagues on how to improve the student's marks and different ways to approach their learning. While this might not entirely solve the problem, it has been created as a fail safe and support for the teacher and student.

Another possible limitation of the project was noted to potentially affect the teacher. Just like the student, it was entirely possible that the teacher does not take well to the changes and new programming. The teacher might have found that the project was unimportant to their teaching and they might have refused or limited their participation in the program. Fortunately, a safety net was also planned for this occasion.

Administration and staff have been asked to complete one observation each. During

these observations staff were asked to document how the teachers' progress on implementing growth mindset into the classroom was going. They needed to remark on some potential ways for the teacher to improve and some things that they have learned personally. Following the observation teachers and administration sat down with each other and discussed their findings. It was here, during these meetings, that involved project members were given a space to reach out to the teacher and reinvolve them in the project. Again, this was created as a small aid to wavering teachers and it still might not be enough to fully gain their involvement in the project.

Future Project Use and Communication

A lot of effort has been put into the project, so it would be wonderful to have it be used in its entirety. Yet, given the size and commitments, this might not be an option of all schools. Fortunately, the project was planned accordingly and can be broken down into several smaller pieces, such as a singular intervention, teacher training, pedagogy development, or community reform. Additionally, the project can also be broken down solely by information it provides and be used to conduct a class on grit, growth mindset or psychology. This project could be morphed into any number of smaller projects that relate to the overall theme of motivation and achievement. If a piece of the project or project in its entirety were to be used, it would most likely only be published in a small school community publication or education journal. Moreover, it might also just be published within a school district if a school is able to find success with it.

Project Benefits to the Profession

There are many benefits that this project provided teaching professionals. The first benefit was in its promotion of understanding and using a growth mindset. Adapting growth mindset teaching tactics to the classroom was noted as being very beneficial to students and the functionality of the classroom. In having teachers and students learn about mindsets, there was a higher chance that a positive perspective of their abilities, improved motivation and achievement was attained. By teaching a community about growth mindset, the project has created an opportunity to improve the communication, teaching, learning, and social-emotional wellbeing of the school community.

To take it one step further the project also gave administration and staff several different tactics to improve student engagement. Even if the pre-planned limitations of the project happen, there are aspects with the teaching methods, interventions, general information or teacher training that can be used to strengthen one's practice or a student's learning experiences. Whether it be the practices on cultural relevancy or the promoting mistakes tactics, this project provided most tools for a teacher's tool belt and can be applied in a multitude of scenarios.

Summary

This chapter reflected on the culmination of a successful project, as well as the ability to answer the question, *what drives students' motivation to achieve and what steps can be taken to develop a growth mindset in students?* Personally, it seems like this has been achieved. The project, alone, was designed to walk teachers and administration through answering this question, by not only explaining the psychology of motivation, but also scientific backed tactics to help improve students' mindsets and motivation. The

project was even planned to take it one step further, as it actually provided a base for teachers and administration of a plan for school improvement and growth mindset implementation. For these reasons, this project could be deemed successful and influential.

On a personal note, this project has been an impactful part of life for the past several months. It seems so well timed that this was written during the coronavirus pandemic and significant civil distress. Perhaps the concepts of growth mindset can be applied outside of the classroom, and be used to promote understanding, motivation, and possibility.

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Appendix A

Growth Mindset Project Timeline

Steps	Timing for Implementation	Required People for Step	Outline of Step
Step 1: 4 Planning Meetings 1 Meeting a Week <u>1 Hour</u>	1 Month Before School <i>2nd Week of July to the 2nd Week of August</i>	Administration: <i>Superintendent, Principals, Vice Principal</i>	Meeting One: <ul style="list-style-type: none"> Take the entrance survey Go over the project schedule Review PowerPoint slides parts one and two Meeting Two: <ul style="list-style-type: none"> Review PowerPoint slides part three and four Review Powerpoint slides parts six, seven, and eight Meeting Three: <ul style="list-style-type: none"> Discuss project and community objectives Meeting Four: <ul style="list-style-type: none"> Prepare for teacher training
Step 2: <i>Teacher Training</i> <u>2 Full Days of Training.</u>	Two Weeks Before School Starts <i>2nd Week of August</i>	Administration and All Teaching Staff	Day One: <ul style="list-style-type: none"> Introduction and survey Learn about the following: <ul style="list-style-type: none"> Psychology of motivation, Influence of teachers, parents, peers, and individuals Cross-cultural viewpoint on motivation How to improve

			<p>and change students' mindsets and motivation.</p> <ul style="list-style-type: none"> • Growth mindset planning <p>Day Two:</p> <ul style="list-style-type: none"> • Continue planning • Practice growth mindset implementation • Demonstration of practice classroom demonstration • Conclusion and final discussion
<p>Step 3: <i>Monthly Meetings and Check Ins</i> <u>40 minutes</u></p>	<p>Twice a Month <i>For the 4 months.</i> <i>September-December</i></p>	<p>All Teaching Staff and Administration <i>(Principals and Vice Principals)</i></p>	<ul style="list-style-type: none"> • Each meeting time will be used to discuss the progress in the classroom and community. They will also use this time to make any necessary changes.
<p>Step 4: <i>Administration Visit Classroom</i> <u>1 Full Class Period</u></p>	<p>Starting in 3rd Month <i>Completed by Winter Break</i> <i>November-December</i></p>	<p>Administration <i>(Principals and Vice Principals)</i></p>	<ul style="list-style-type: none"> • Administration will visit all teachers classrooms to check on teacher progress. They will provide notes and feedback on how teachers are implementing growth mindsets.
<p>Step 5: <i>Revised Monthly Meetings and Check Ins</i> <u>20 Minutes</u></p>	<p>Once a Month <i>For 3 Months</i> <i>January- March</i></p>	<p>All Teaching Staff Staff and Administration <i>(Principals and Vice Principals)</i></p>	<ul style="list-style-type: none"> • Each meeting time will be used to discuss the progress in the classroom and community. No more changes will be made to planning.
<p>Step 6:</p>	<p>Starting in 6th</p>	<p>All Teaching</p>	<ul style="list-style-type: none"> • All teachers will visit

<i>Teachers Visit Other Classrooms <u>1 Full Class Period</u></i>	Month <i>Completed by March 1st February- March</i>	Staff	each other's classrooms. They will observe and take notes on the other teacher. Following the observation, they will meet and discuss progress.
Step 7: <i>Revised Meetings and Check Ins <u>20 Minutes</u></i>	One Meeting Every Other Month <i>March- June</i>	All Teaching Staff and Administration <i>(Principals and Vice Principals)</i>	<ul style="list-style-type: none"> Each meeting time will be used to discuss the progress in the classroom and community. No more changes will be made to planning.
Step 8: <i>End of Project, Exit Survey, and Discussion <u>1 Hour</u></i>	Last Week of School <i>June</i>	All Teaching Staff and Administration <i>(Principals and Vice Principals)</i>	Part One: <ul style="list-style-type: none"> Exit Survey to get final comments on project Part Two: <ul style="list-style-type: none"> Discussions about the project and continuing it into next school year.

7/21/2020

Entrance / Exit Survey

Entrance / Exit Survey

Please complete the following survey. Please make sure your answers are accurate, as you will be comparing them with the exit survey at the end of the year.

Part One: General Knowledge

Based on your personal knowledge, please rate your familiarity

1. I know about growth mindsets

Mark only one oval.

	1	2	3	4	5	
Not Familiar At All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Familiar

2. I know about grit.

Mark only one oval.

	1	2	3	4	5	
Not Familiar At All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Familiar

3. I know about brain malleability.

Mark only one oval.

	1	2	3	4	5	
Not Familiar At All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Familiar

7/21/2020

Entrance / Exit Survey

4. I know about the psychology of motivation.

Mark only one oval.

	1	2	3	4	5	
Not Familiar At All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Familiar

5. I know about defensive pessimism.

Mark only one oval.

	1	2	3	4	5	
Not Familiar At All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Familiar

6. I know about the achievement gap.

Mark only one oval.

	1	2	3	4	5	
Not Familiar At All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Familiar

7. I know about stereotype threat.

Mark only one oval.

	1	2	3	4	5	
Not Familiar At All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Familiar

7/21/2020

Entrance / Exit Survey

8. I know about process based feedback.

Mark only one oval.

	1	2	3	4	5	
Not Familiar At All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Familiar

9. I know about performance based feedback.

Mark only one oval.

	1	2	3	4	5	
Not Familiar At All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Familiar

Part Two: Personal Opinion and Education

Please rate, on a scale of one to five, whether you agree or disagree with the statement.

10. Fixed and growth mindsets are correlated to student achievement and motivation.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

11. Growth mindset and grit can be learned.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

7/21/2020

Entrance / Exit Survey

12. Mindsets are related to achievement gap and stereotype threat.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

13. Teachers communication and feedback have a connection to a students mindset.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

14. A teacher's beliefs about a students capability affect a students motivation and achievement.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

15. A teacher's feedback and communication should be generic.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

7/21/2020

Entrance / Exit Survey

16. A parents own mindset can be passed onto their child.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

17. The feedback and praise an adult gives can affect a students mindset.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

18. Peers should be factored into growth mindset planning or teaching.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

19. Peers can change another students learning potential.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

7/21/2020

Entrance / Exit Survey

20. A student will intentionally avoid an assignment.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

21. A student's mindset is the culmination of several factors.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Part Three: Comfort With Pedagogy

Remaining true to your feelings, please rate your comfort in teaching growth mindset.

22. I would know how to create a one short mindset intervention for my students.

Mark only one oval.

	1	2	3	4	5	
Not Comfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Comfortable

23. I know several ways to implement growth mindset practices into my classroom.

Mark only one oval.

	1	2	3	4	5	
Not Comfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Comfortable

7/21/2020

Entrance / Exit Survey

24. I am able to make growth mindset activities and practices culturally relevant.

Mark only one oval.

	1	2	3	4	5	
Not Comfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Comfortable

25. I know ways to communicate with my students that promote a growth mindset.

Mark only one oval.

	1	2	3	4	5	
Not Comfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Comfortable

26. I know how to promote a growth mindset community

Mark only one oval.

	1	2	3	4	5	
Not Comfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Comfortable

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Appendix B

Growth Mindset Planning and Training Prompts

The following is designed to help take you through the administration training and planning meetings. These meetings are necessary to prepare you for not only the full school year project, but also for the teacher training session, which you will be leading. Each section will outline major tasks and prompt you with discussion questions and aspects of the project to think about.

Meeting One Outline:

1. Take the Entrance Survey

- a. Before you start planning for learning about growth mindsets, please take the entrance survey. This survey is required, as it will be needed to make a before and after school year evaluation.
- b. During the teacher training session, please also make sure this is the first activity the teachers complete.

2. Go Over project schedule

- a. A basic schedule template for the project has been supplied in appendix A. Please adopt this template to your school's timetable.
- b. Once the timetable has been set, notify teachers of their training date.

3. Review Powerpoint Slides Parts One and Two

- a. In appendix C, a large Powerpoint for the teacher training has been provided. This Powerpoint has crucial information explaining the psychology of mindsets, community reform practices and teacher pedagogy developments. At the end of the Powerpoint, the format for the training and practice session has also been provided.

- b. Part One and Two of the Powerpoint cover the psychology behind motivation and mindsets. The following questions will ensure that you have a full understanding of the section.
 - i. How will you further teachers' understanding of mindsets and grit, aside from the information on the Powerpoint?
 - 1. Is there outside information that is needed for better understanding?
 - ii. Do you have a full understanding of the influence of teachers, parents, peers, and the individual?
 - 1. Are there any examples that you can provide to help support the teacher's understanding?
 - iii. Communication, feedback, and praise are major aspects of teacher, parent, and peer influence.
 - 1. Can you demonstrate the differences to the teachers?
 - iv. Are the main objectives clear to the teachers, do these need to be restated?

Meeting Two Outline:

1. Review Powerpoint Slides Parts Three and Four

- a. Part three covers the importance of factoring cross-cultural influence on motivation. Part four covers how to improve and change students' mindsets and motivation. The following questions will ensure that you have a full understanding of the section.
 - i. How does the cross-cultural information correlate to your school?
 - 1. Is there an example that could be shared to support your teacher's understanding?
 - a. Could you possibly have a discussion with your teachers and collect ideas about how to make education more diverse?
 - 2. Do you want to put forth any ideas to prevent stereotype threat in the training?

3. Are there any school statistics you can share about your personal achievement gap, to strengthen your teachers' understanding?
4. Do you understand the information about interventions, community reform, and growth mindset pedagogies?
 - a. Is there more outside research that could be used to strengthen your understanding?
 - b. How might the different intervention tactics be used in the school and classrooms?
5. Are there any possible demonstrations or examples you could use to help your teachers understand the change in communication and feedback pedagogy?
6. How might you support teachers with their communication and teaching practices throughout the school?
7. How might you express your support in teacher training and community norm changes?
 - a. Is there a channel of communication you could create and share with your teachers?

2. Review Powerpoint Slides Parts Six, Seven and Eight

- a. Part six, seven, and eight are formatted to help you walk through the teacher planning, practice, and demonstration portion of their training. The following highlights the major aspects of this section and their importance. Additionally, some questions will help you to prepare for outlying information.
 - i. How will you convey the importance of this planning and practice?
 - ii. How will you support your teachers during this planning, practice, and demonstration period?
 - iii. Could you lead by example and demonstrate possible planning or practice techniques?
 - iv. What kind of feedback will you encourage during the practice and demonstrations?
-

Meeting Three Outline:

1. Discuss Project and Community Objectives

- a. Following the teacher training, the rest of the school year will be covering steps three through eight from the growth mindset timeline. The following questions will make sure that you are prepared to follow through the plan and explain the project to the teachers.
 - i. How will you explain the next steps of the project to the teachers?
 - ii. How will you make sure the teachers understand the importance of the project?
 - iii. What roles will you play in the project, to ensure that the project is successful?
 - iv. How will you explain the meetings and observations?
 1. How will your leadership ensure that the teachers follow through on their responsibilities?
 2. How will you convey that these meetings and observations are to aid the teachers, not judge them?
 - v. How will you convey your support for the teachers?
 - vi. How will you hold yourself accountable throughout the school year?
-

Meeting Four Outline:

1. Prepare for Teacher Training

- a. To wrap up the final part of the meetings, you should take this time to prepare any materials that are needed for the training. The following questions will also help you prepare for occurrences during your presentation.
 - i. What roles will you play in the training?
 1. Who will teach which parts?
 - ii. Are there any activities that you would like to include in the training?
 1. Who will lead these activities?

- iii. How will you make sure you use the training materials and time to make sure that the teachers are invested?
 - 1. Are there any materials or activities that will help that?
- iv. What materials are needed?
 - 1. How are you going to organize the materials?

Appendix C

Teacher Training Schedule

Day One: 8:00 AM - 3:00 PM

- Introduction
 - Ice Breaker Activity
 - Entrance Survey
- Part One: Psychology of Motivation
- Part Two: Influence of Teachers, Parents, Peers, and an Individual on Motivation
- Movement Break/Snack
- Part Three: Cross-Cultural Viewpoint on Motivation
- Part Four: How to Improve and Change Students Mindsets and Motivation
- Lunch
- Part Five: Planning
 - Activity 1
 - Activity 2

Day Two: 8:00 AM - 3:00 PM

- Welcome Back
- Part Three Continued: Planning
 - Activity 3
- Movement Break
- Part Six: Practice
 - Activity 1
 - Activity 2
- Lunch
- Part Five: Demonstrations
- Part Six: Conclusion and Final Discussion
 - Give plan for school year
 - Go over calendar
 - Go over responsibilities

Teacher Planning and Practice Prompts:

Directions For the Following Worksheets:

The following collection of worksheets, will help you to start planning and preparing for using growth mindset strategies in your classroom. These worksheets will be used in your group discussions, planning sessions, practice sessions, and demonstrations. Each activity's directions and prompts will be included below.

Part 5: Planning

Purpose: This section will be used to start planning. This section consists of three different activities. The end goal is to create a functional plan and several growth mindset activities that you can use to get started in the first month of school and can store and use throughout the school year.

Part 5 is the planning section. Note: you will be choosing one of the activities that you have planned and will adapt it into a demonstration/mock teaching for your peers. Directions for this will be in part 6 and 7.

Things to Consider:

- Demographic of the classroom or school
- Students in the student population
- General interests of your school community
- Community of your school district

Possibilities to Prepare For:

- Students that are hesitant to participate
- Students that are hesitant to change
- Possible conversations with students and community
- Time constraints
- Social/Emotional stability of students
- New rules and procedures that are needed in your classroom
- How will you handle disruptions or below the line behaviors

Activity 1: Jigsaw Discussion

For this activity you will be broken apart into small groups. One member of your group will be chosen and will be asked to move and share their group's information from their

previous discussion. Your initial group should focus on answering the following questions. Once one of your group members has been moved, you will just be sharing out the answers from your discussion and furthering the conversation with your new group member.

Discussion Questions:

What is the best way to describe mindsets to students? How will we help them know the difference between fixed and growth mindsets? What about grit?

How can teachers use their knowledge about the outside influences of motivation (teacher, parent, peer, and the self) to better plan growth mindset activities?

What are some major considerations in teaching a growth mindset in a diverse classroom?

Will my own mindset affect my students?

How will teachers change their communication in the classroom, so that it is growth mindset oriented?

How can we use our knowledge about interventions, reforms, and pedagogy practices to start preparing activities for students? Provide some examples.

Activity #2: Subject Specific Group Discussion

For this activity you will be broken up into groups based on the subject that you teach. In your groups you will once again be discussing and planning ways to incorporate growth mindsets into your classroom and teaching. Please use the following discussion questions to help you continue to build your plan. Please make sure that your answers and plans align with the parameters of your subject.

Discussion Questions:

How can you combine teaching grit and growth mindset with your subject?

How will you make sure that your (subject specific) feedback is conducive to a growth mindset?

What types of words or phrases can be used to make sure it is process based feedback?

How can you show a step by step process in my subject area?

How can your subject area use growth mindset psychology to prevent task avoidance and defensive pessimism?

What types of activities can your subject area design to make sure all aspects of diversity are being covered?

How can your team make sure that stereotype threats are stopped and achievement gaps are closed?

What might a subject-specific intervention look like?

How can you incorporate positive talk and positive self image in your classrooms?

How can your subject incorporate pedagogy suggestions into your classrooms?

Activity 3: Individual Planning

Directions: Using the questions above, please start planning for the ways that you will incorporate growth mindset pedagogies into the classroom. These can be activities, styles of feedback, or step by step project demonstration. This planning time is meant to prepare for growth mindset implementation throughout the school year. Note: if you plan on using a small intervention based activity in your classroom, this would be the perfect time to plan it.

Furthermore, this planning session will also be coupled with a practice session and demonstration. The practice session will give you time with your peers to gain feedback on how you have incorporated growth mindset into your pedagogy. The demonstration will be used to extend your knowledge to the larger group, to show the diversity of ways to include a growth mindset in the classroom. For these demonstrations and practice sessions, it would be best to prepare an activity or small project that you would use in the classroom and infuse it with growth mindset based tactics.

Consider the Following When Planning:

- ☐ Teaching your students about growth mindset
- ☐ Correcting work and peer feedback
- ☐ Activities with diversity and mindset
- ☐ Giving feedback to students
- ☐ Demonstrating failure
- ☐ Imagery in the classroom and lessons
- ☐ Teaching a step by step process
- ☐ Showing struggle and failure
- ☐ Redirect during task avoidance
- ☐ Your style of communication
- ☐ Engaging activities and learning environment
- ☐ Attainable, yet challenging tasks
- ☐ One to one interactions for feedback
- ☐ Process based learning
- ☐ Process based feedback

Part 6: Individual and Group Practice

Purpose: As stated above, this practice session is for you to practice using the growth mindset pedagogy of your choosing by yourself and with your peers. This is a time to gain feedback from your peers and to prepare for your large group demonstration. As a note, please reflect on the activities of your peers, as they will bring new tactics and strategies to the table.

Prompts and Questions For Peer Feedback:

1. What did the teacher demonstrate?
 - a. Did it include growth mindset practices accurately?
 - b. Is there another way or aspect that could have been added?
2. In the demonstration were the steps accurately laid out?
 - a. Did the students understand how to complete the project?
 - b. Did the teacher demonstrate mistakes and how to fix them?
 - c. Did the teacher encourage grit?
3. Did the teacher include any student feedback?
 - a. Was this feedback helpful?
 - i. Process-based feedback?
 - ii. Non-generic?
4. Was growth mindset imagery included in the demonstration?
 - a. Did it accurately reflect the goal?
5. Did the teacher plan for task avoidance and redirection?
 - a. If not, check on their tactics on how they were to regain student focus.
6. Was the activity or lesson culturally relevant?
 - a. Did it include aspects of the students lives?
 - b. Did it include figures of all nationalities, genders, and sexualities?

Part 7: Demonstrations

Purpose: As stated above, the demonstrations are meant to provide a place for teachers to demonstrate their growth mindset tactics to other teachers. This will provide a space to share knowledge and ideas with each other. It will also be a space to gain further feedback on ways to improve our practice.

Feedback Prompts for Peer Demonstrations:

1. What did the teacher demonstrate?
 - a. Did it align with growth mindset and grit tactics?
2. What style of feedback did you see?
 - a. Was it non-generic and process-based?
3. How did the teacher provide instruction?
 - a. Step by step?
 - b. Did they show mistakes and how to recover from them?
4. Was the lesson culturally relevant?
5. What did you learn personally?
 - a. Do you think the students would have learned the same things?
 - b. What were some positive aspects of the lesson that you learned and will use in your own classroom?
6. What are some things that the teacher could improve on?

Growth Mindset Teacher Training Session

The Purpose

This teacher training session was designed to prepare teachers to include growth mindset based instruction practices in their classrooms.

The training session will provide planning and practice time, that will help to prepare to implement growth mindset pedagogies.

The Reason

- Teacher training is an effective way to develop and promote growth mindsets in schools.
- Training sessions have helped teachers learn how to apply new methods, in their classroom, that facilitated and supported growth mindsets.
- Training sessions have also helped teachers to develop their own practice and mindset beliefs.
- Training sessions help teachers establish a plan for growth mindset pedagogy implementation.

The Vision

The following training session is designed to not only help teachers become familiar with the psychology of mindsets, but it also intends to help teachers develop growth mindset instruction techniques, that can aid the school community in improving the motivation, achievement, and participation of all students.

Overview of Training

- **Part One:** Psychology of Motivation and Mindsets
 - Gift and Growth Mindset
 - What is Growth Mindset?
 - What is Gift?
 - Motivation and Achievement are Shaped by Gift and Mindsets
- **Part Two:** Teachers, Parents, Peers, and an Individual's Effect on Motivation and Mindsets
 - Teachers
 - Parents
 - Peers
 - Individual
- **Part Three:** Cross-Cultural Viewpoint on Motivation
 - General Information
 - Stereotype Bias
 - Achievement Gap

Overview of Training Continued

- **Part Four:** How to Improve and Change Student Mindsets and Motivation
 - Correcting and Changing Mindsets
 - Interventions
 - Cross-Cultural Interventions
 - Changes to Pedagogies and Instructions
 - Community Norm Changes
- **Part Five:** Instruction Planning
 - Activity #1- Jigsaw Discussion
 - Activity #2- Subject Specific Group Planning
 - Activity #3- Individual Planning
- **Part Six:** Practice for Demonstration
 - Activity #1- Group and Individual Practice
- **Part Seven:** Demonstrations
 - Group Demonstrations and Feedback
- **Part Eight:** Conclusion
 - Next Steps in The Project

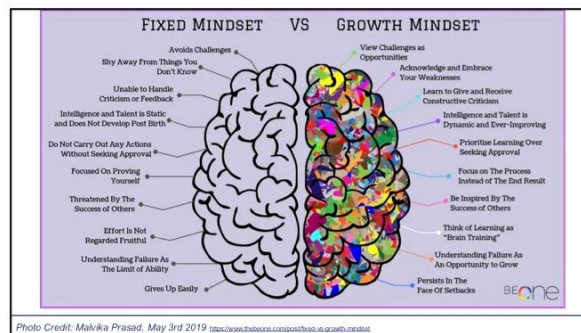
Part One: The Psychology of Motivation and Mindsets

Growth Mindset

- The idea of mindsets was created by Carol Dweck.
 - These mindsets was her attempt to explain brain malleability and its capacity to learn (2012).
- Dweck created two different mindsets, fixed and growth mindset, to represent different ways that people will approach challenges.
 - Fixed Mindset: a person believes that they are incapable of learning and actively avoids challenges (2012).
 - Growth mindset: a person who feels that they are capable of learning and are committed to their goal, despite difficulties (2012).

Growth Mindset Continued...

- Haimovitz and Dweck claimed that growth mindset is connected to motivation and achievement.
 - "Two mindsets orient students toward different goals, different views of effort and different reactions to setbacks" (2017, p. 1850)
 - Growth mindset increased the students dedication and academic success (2017).
- Dweck also explained the differences in how mindsets approach failure.
 - Fixed mindset: will view their failure on an assignment as an attack on their capacity to learn.
 - Growth Mindset: will view their failure as a sign that they need more practice.



Grit

- Grit was a term created by Angela Duckworth.
 - Her definition of grit was, "perseverance and passion for long-term goals... working strenuously toward challenges, maintaining effort and interest over years despite failure, adversity, and plateaus in progress (2017, p. 614-615)
 - She has also claimed that grit can be learned, as people tackle different challenges and adversities.
- Grit is important to motivation and achievement.
 - It serves as the "mediator in the relationship between growth mindset, goal commitment and academic outcomes" (Tang et. al. 2019, p. 850)
 - Students who have grit are more likely to be committed to their education and have a higher potential of achievement (Tang et.al, 2019)

Grit and Growth Mindset Takeaways

- Both demonstrate how a students mindset can affect their potential academic success
- Grit helps students to remain steadfast and set lofty goals
- Growth Mindset allows students to know that they all have potential and can learn

Teachers Continued

- **Teacher Linguistic Cues and Biases**
 - A teacher's expectation of a student behavior changes their communication. This is a concept that was termed perceived controllability and perceived uncontrollability.
 - **Perceived Controllability:** A teacher believes that a student capable and lacking motivation.
 - This belief can "elicit anger and the withholding of help" (Georgiou et. al, 2002, p. 584).
 - **Perceived Uncontrollability:** A teacher believes that a student is incapable and does not have the facilities to finish an assignment.
 - This belief "gives rise to sympathy and promotes the commitment to help" (Georgiou et. al, 2002, p. 584).

Teachers Continued

- **Teacher Feedback**
 - Haimovitz and Dweck found that there are two typical types of feedback, person-centered and process centered feedback (2012)
 - **Person Centered:** Generic feedback like "good job" or "you did this wrong"
 - This style of feedback because it was harmful to a child's self image and made them feel like their mistakes were a reflection of their abilities (Cimpian, 2007).
 - This type of feedback correlated intelligence with performance.
 - **Process Centered:** Feedback similar to "ok so you did steps 1-3 correct, well done, but here on step you accidentally forgot to carry the one. That is okay, just when you try it again, make sure you look carefully at this step".
 - The feedback was in depth and did not judge the students' intelligence, it judged their process.
 - Haimovitz and Dweck claimed that feedback was connected to feelings of intelligence and ability was being questioned, which caused feelings of helplessness and dejections.

Parents

- **Parents reactions to challenges and their communication are major factors to a child's mindset and motivation.**
 - They are also not able to pass on their own growth mindset.
- **Parent Communication**
 - Jose and Bellamy explained that a parent's feedback and direction during their child's struggle shaped the development of the child's self-esteem and initiative (2012)
 - They explained this through mastery and performance oriented feedback.
 - **Mastery Oriented Feedback:** a parent is more likely to give compassionate feedback and explain the shortfall by saying the child has not yet learned it.
 - **Performance Oriented Feedback:** a parent is more likely to be less encouraging and were more willing to let their child shy away from difficulty. They blamed their child's trouble on their ability.

Parents Continued

- **Parent Communication**
 - Similar to teachers, researchers categorize the type of feedback to generic, person- oriented praise and process-oriented praise.
 - In fact Cimpian et. al, found that "generic praise may lead children to think in trait terms, such that later mistakes could signal negative traits or low ability and therefore undermine motivation" (2007, p. 315).
 - Their study also noted that children who received more superficial praise were more likely to give up during difficulties, than their counterparts (2007).
 - Therefore their research suggests that generic feedback can once again undermine the motivation and self-confidence of a child.
- The differences in these types of communication and feedback was a major factor in the development of a child's grit and motivation.

Discussion Questions:

- In your practice have you seen a student exhibit a fixed mindset?
 - How did this person act in your classroom?
- Have you seen a student exhibit a growth mindset?
 - How did this student act in your classroom?
- How do you think you could teach grit to your students?

Part Two:

Teachers, Parents, Peers and an Individual's Effect on Motivation and Mindsets

Teachers, Parents, Peers and an Individual's Effect on Motivation and Mindsets

- The mindsets that person has have been affected or created by the people around them.
- Most studies focus on the influence of teachers, parents, peers, and the individual.
- In all types of environments, people can be inundated with negative linguistic cues, feedback, and competition. These interactions can damage one's self confidence, aspirations, or mindsets.

Teachers

- Teachers feedback, linguistic cues, and teacher biases are the most influential aspects to student motivation.
- Teacher Biases
 - A study by Stelio Georgiou cited that the assumptions that a teacher holds about a student, affects their style of communication and their expectations (2002)
 - Adults might have a growth mindset, but they do not always pass it onto a student.
 - Haimovitz and Dweck explained that this was because the actions of an adult were not based on a mindset by rather a reaction to behavior. Rather an adult's preconceived beliefs can supersede training and logic (2017).

Peers

- Peers and Competition
 - Colleen O'Neal's study found that student's motivation and classroom engagement was actually dependent on the collective behaviors of the classroom or group. (2018)
 - Meaning a student's drive to fit in with their peers, changes their motivation.
 - O'Neal also claimed that students who demonstrated grit and were able to maintain their long term aspirations were able to remove themselves from the pressures of their friends (2018).
- Ruth Butler's study has found some success in task oriented assignments.
 - Yet, she still found that task based assignments were somewhat difficult because the educational system has an aspect of institutionalized competition.

Discussion Questions:

- How might you change your communication to improve a student's self image?
- How could you use this knowledge to recognize your student's learning patterns?
 - How might you try to help them improve?
- Since competition is an issue, how might you work to counteract this in your classroom?

Part Three: Cross-Cultural Viewpoint on Motivation and Mindsets

Cross-Cultural Viewpoint on Motivation and Mindsets

- The systematic discrimination of students of color, within the education and research system, is a major issue. It is an issue that spans into the development of mindset and grit.
 - The issues in teaching mindset and grit are enlarged as student investment, stereotype bias, and achievement gap issues need to be factored in.
- Cross-Cultural and Student Investment
 - The majority of curriculum is not developed with students of color in mind.
 - This results in many students of color feeling isolated from the classroom material and culture.
 - To make a change personal investment theory and social and extrinsic goals need to be factored in (King, McInerney, and Nasser 2017).

Cross-Cultural Viewpoint Cont.

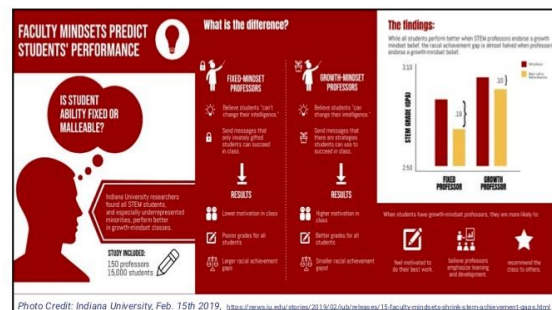
- Cross-Cultural and Student Investment Continued.
 - Personal Investment Theory: centered around the idea that individual people had their own interests and strengths.
 - Meaning that, learning goals and activities need to be personalized for student demographic.
 - Social goal: Designing a curriculum that holds the students culture and experiences in mind.
 - "Tasks should be interesting and meaningful... diverse and novel... involve active participation, personal challenge, and control over more of engagement and type of product" (Kaplan & Maehr, 1999, p. 28).
 - Extrinsic goal: Factors in the unique culture motivations and how it changes the scope of traditional motivations.

Stereotype Bias

- Stereotype Bias and Cross-Cultural Motivation
 - Stereotype Bias: when someone profiles another person's abilities based on their culture or traits.
 - For teaching, this might look like a teacher not advancing a student of color to an upper level course, because they think they the student is incapable based on a stereotype of the culture.
 - Stereotype Biases can change the linguistic cues of a teacher.
 - The linguistic cues of the teacher, when negative or demeaning, can affect the students self worth
 - Poor self-worth can cause anxiety for students of color (Kaplan & Maehr, 1999)
- The stereotypes threat has caused many students to shy away from tasks and fields of study

Achievement Gap

- The Achievement Gap and Student Investment
 - Achievement Gap: The difference in school achievement, test scores, and post-secondary education between white students and students of color.
 - Related, because when students are not invested in their learning or are not being taught information that is culturally relevant their engagement in school will lessen.
 - This can cause the achievement gap to increase
- The Achievement Gap and Stereotype Bias
 - Related, because stereotype threat and the anxiety it causes, propensities the divide.
 - When stereotypes are put aside, students of color would be treated equally in the classroom and given equal opportunities.
- Teachers need to make sure that they are factoring in these affects, as these two factors make it harder for disenfranchised students to stay motivated.



Discussion Questions:

- Can you think of a situation where you or a coworker have inadvertently stereotyped a student?
 - How do you think this affected the student?
 - How do you think they felt?
 - Do you think this affected their motivation and achievement?
- What are some ways you can change your classroom to promote and invite culturally diverse materials?

Part Four: How to Improve and Change Students Mindsets and Motivation

Correcting and Changing Mindsets

- Now that a greater understanding of the psychology of motivation and mindset has been established, the next step was to look at how schools and researchers have worked to improve the mindsets of their students.
- Several approaches that seemed to dominate the field are short and long term interventions, social-cognitive pedagogy, community reform, and teacher training initiatives.
- Depending on the method and implementation, these interventions were anywhere from one hour to a year long.
- While the most popular of these approaches were short and long term interventions, research has also found the other methods were just as credible.

Interventions

- There are two types of interventions, short and long term.
 - Both interventions introduce students to growth mindsets and explain how the brain is malleable and continuously learning.
 - Both rely on some form self-persuasion.
 - Short Term: Usually a one day or one shot intervention, set up online or in a single class.
 - A commonly more popular in schools, because they are effective and are conducive to school's limited time schedules (Debacker et. al, 2018).
 - Long Term: Usually conducted over the course of several weeks, but can take track students for several years.
 - Usually mirrored their short term counterparts, and were conducted online, in a base class. However they would take this further and continue to track students through surveys and questionnaires.
 - Not traditionally conducive to school time schedules.

Short Term Intervention Examples

- This study was published by Teresa K. DeBaker
 - The intervention was designed to align with the individuals personal beliefs and goals, so that students saw the benefits of the intervention personally (2018).
 - Their study had three steps.
 - Lesson: students were given scientific information about how the brain works (2018). They gave students information that helped them break their stereotypic thinking of intrinsic intelligence.
 - Comprehension check: composed of a six-question worksheet. The students had to write their answers via writing and illustrations. These worksheets were meant to check their understanding on the articles on brain plasticity.
 - Letter: written to another student and was meant to be persuasive. Having the students write a persuasive letter to another student was meant to increase their own self persuasion.
 - The results of the study were promising. Debaker showed that their small scale intervention was not only successful in that students gained knowledge about brain plasticity, but also helped to decrease task avoidance behaviors (2018).

Long Term Intervention Examples

- Created by Yeager and Associates
 - Focused their project around "user-centered design", in which "the researchers used those responses to formulate changes for the next iteration"(2016, p. 375).
 - This ensured that they could see the clear outcome of how their brain altered after the intake of information.
 - Yeager and Associates study was formed into two sessions, each session four weeks apart.
 - The first session conducted baseline surveys. The second session took that content and applied it to their survey materials (2016).
 - In the second session they asked students to create a math worksheet, in which they were able to choose the level of difficulty. Afterwards, they had to complete another student's worksheet. Again, they were given the choice of a hard or easy worksheet.
 - The logic of the math tests, was to see the level of challenge that students were willing to apply themselves to, following the study of brain plasticity.
 - This intervention was successful. Students claimed that they felt more capable and that they would choose the harder math worksheet (2016).
 - The intervention was able to improve course grades (2016).

Cross-Cultural Interventions

- Cohen and Walton conducted two different studies
 - Study One: The intervention evaluated how students dealt with their self image, when it did not match the image of their peers (2011).
 - He gave 7th grade African American students positive statements about the self and the student's learning ability. These value affirmations were done through writing exercises.
 - Study Two: studied college age African American students' social connections and self esteem at school.
 - Students were asked to create a list of friends in their field; exceptional difference between the black and white students. White students did not have an emotional reaction. Black students had an emotional reaction as it made them recognize that their list included very few other African American students (Yeager and Walton, 2011).
 - In response he created an intervention. First year African American were required to write letters to the following year's students, describing their successes and tribulations throughout the school year.
 - The letters were successful in reducing African American student's displacement and lack of belonging. Additionally, the grades of incoming freshmen remained high for at least three more years (Yeager and Walton, 2011).
 - Showed some progress in closing the achievement gap (Yeager & Walton, 2011).

Discussion Questions:

- Since the school will not be conducting a student intervention, how might you use this information and apply it to your classrooms?
- Is there a way that you could personally track your students progress?

Changes in Instruction and Pedagogy

- Growth mindset instruction is key to developing students mindsets.
- The following outlines three different researchers recommendations.
- **Recommendation #1: Megan Truax's study on teacher feedback.**
 - She suggests having conferences with the students, as this was a great way to create a space to give feedback (2018).
 - In the conference she suggested giving process based feedback on assignments in order to outline goals and places for students to improve their work (2018).
 - Teachers needed to make sure that their communication was process based, not person based, to ensure that criticism was passed only on effort not (2018).
- **Recommendation #2: Rissanen et.al, study on feedback and communication.**
 - Suggested process-focused teaching to help students to focus on the steps to learn the material (2019).
 - Accept the process of learning
 - Accept mistakes that accompany learning (2019).
 - Pedagogically speaking, teachers need to accept individual learning strategies
 - Teachers should avoid stereotyping
 - Provide frequent one-to-one interaction
 - Learn about an individual's barriers (2019).

Changes in Instruction and Pedagogy Continued

- **Recommendation #3: Cheska Robinson (2017) promoted several pedagogical practices.**
 - **Suggestion #1:** Teach their students about how the brain works and how information was absorbed (2017).
 - **Suggestion #2:** Make sure that the learning environment and activities were engaging.
 - These practices helped the student to absorb and interact with the information better (2017).
 - **Suggestion #3:** Teachers publicly accept their mistakes.
 - Helps students to recognize that failure was a part of learning.
 - Students more likely pursue challenging subjects and not worry about failing (2017).
 - **Suggestion #4:** Make sure language was positive and clearly communicated the objectives.
 - Changed how teachers framed problems and challenges in the classroom.
 - The new communication strategies guided the students through the process of learning (2017).
 - **Suggestion #5:** Teachers promote and encourage positive self image (2017).
 - Help students to change their negative comments
 - Find a more positive way of looking at things.

Community Norm Changes

- In order to enact all of the aforementioned interventions, training, and pedagogies, schools also need community reform.
 - This promotes unity throughout the school
 - Must be started by leadership and displayed by every member of the school.
- High school Principal, Ian Andrew Guidera, detailed this in his dissertation
 - He found success in several ways
 - **First:** ensure that the teachers were facilitating and advocating for reform in the classroom (2014)
 - Guidera suggested that this was combined with proper teacher training on "threats to performance and achievement" (2014, p.70)
 - **Second:** Stressed the importance of administrative support, as this ensured that reforms and practices were upheld (2014).
 - **Third:** Staff needed to actively encourage students to pursue challenges (2014)
 - **Fourth:** Failure needed to be normalized (2014)
 - He described failing forward.
 - Failure lies the opportunity to learn and the opportunity to be stronger than if they had succeeded (2014).
 - **Fifth:** Teachers need provide structure to their learning
 - Help students see steps forward (2014)

10 Growth Mindset Statements

What can I say to myself?

FIXED MINDSET	INSTEAD OF:	TRY THINKING:
I'm not good at this.	I'm awesome at this.	1 What am I missing?
I give up.	This is too hard.	2 I'm on the right track.
I can't make this any better.	I just can't do Math.	3 I'll use some of the strategies we've learned.
I made a mistake.	She's so smart I will never be that smart.	4 This may take some time and effort.
It's good enough.	Plan "A" didn't work.	5 I can always improve so I'll keep trying.
		6 I'm going to train my brain in Math.
		7 Mistakes help me to learn better.
		8 I'm going to figure out how she does it.
		9 Is it really my best work?
		10 Good thing the alphabet has 26 letters!

(Original source: unknown) @sylvia.duckworth

Photo Credit (Original Source Unknown). Found at: <https://www.coolcatteacher.com/uploads/teaching-growth-mindset> by Vicki Davis

Part Five: Instruction Planning

Activity #1 Jigsaw Discussion

For this activity you will be broken apart into small groups. One member of your group will be chosen for other tables and share new information from their previous groups discussion. Your initial group should focus on answering the following questions. Once one of your group members has been moved, you will just be sharing out the answers from your discussion and furthering the conversation.

****Please refer to your teacher planning packet for discussion questions****

Activity #2 Subject Specific Group Planning

For this activity you will be broken up into groups based on the subject that you teach. In your groups you will once again be discussing and planning ways to incorporate growth mindsets into your classroom and teaching. Please use the following discussion questions to help you continue to build your plan. Please make sure that your answers and plans align with the parameters of your subject.

****Please refer to your teacher planning packet for discussion questions****

Activity #3 Individual Planning

Please start planning for the ways that you will incorporate growth mindset pedagogies into the classroom. These can be activities, styles of feedback, or step by step project demonstration.

This planning session will also be coupled with a practice session and demonstration. For the demonstrations and practice sessions, it would be best to prepare an activity or small project that you would use in the classroom and infuse it with growth mindset based tactics. This will help you to prepare for using it in your classroom.

****Please refer to your teacher planning packet for further instruction****

Part Six: Practice for Demonstration

Activity #1

As stated above, this practice session is for you to practice using the growth mindset pedagogy of your choosing by yourself and with your peers. This is a time to gain feedback from your peers and to prepare for your large group demonstration.

As a note, please reflect on the activities of your peers, as they will bring new tactics and strategies to the table.

****Please refer to your teacher planning packet for peer feedback suggestions****

Part Seven: Demonstrations

Directions for Demonstrations

As stated above, the demonstrations are meant to provide a place for teachers to demonstrate their growth mindset tactics to other teachers. This will provide a space to share knowledge and ideas with each other. It will also be a space to gain further feedback on ways to improve our practice.

**** Please refer to the teacher planning packet for feedback prompts for the demonstrations****

Part Eight: Conclusion

Next Steps In The Project

- Calendar for the remainder of the school year.
- Teacher and administration meetings and objectives
- Teacher and administration observations
- Tracking the progress of students and self.
- Overall goals
- Accountability
- Where to turn for help

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Appendix D

Retrospective Meetings

Throughout the rest of the school year, all staff will be required to meet twelve different times. As the school year progresses the frequency of the meetings will decrease. Each of the meetings will be organized through retrospective practices. The design of retrospective meetings intends to have teachers looking at the project from different angles. As well, this meeting style strives to keep meetings fresh and original.

All meeting prompts must be asked and answered anonymously. Each of the meetings will be conducted based on the descriptions below. Teachers should take their personal and student progress to each meeting and respond to the retrospective prompts accordingly.

Meeting 1: Starfish

On a whiteboard or chart, please draw a starfish. On each leg of the starfish please place the following categories: keep doing, less of, more of, stop doing, and start doing. Teachers will review their progress and fill in their comments on each leg of the star. Once all of the teachers have answered, please discuss reactions as a group.

Meeting 2: Sailboat

This method will use a sailboat as a euphemism. The following questions should be written on the board or provided to the teachers. What is the wind in our sails? What anchors are holding us back? What rocks are ahead of us that risk our future? What is our ideal destination? Once all of the teachers have answered, please discuss reactions as a group and seek solutions.

Meeting 3: Stop, Start, and Continue

On the whiteboard please place a diagram of a stoplight. Please include the red, yellow, and green lights. Next to the red light, write stop. Next to yellow, write start. Next to green write continue. Teachers should place post-it notes next to each light detailing the

parts of the project that correlate. A reflection should follow and comments should be discussed as a group.

Meeting 4: Three Little Pigs

Just like the childhood story, you will be using the house of straw, the house of sticks, and the house of bricks. The house of straw symbolizes instability, so anything that does not work for the project should be placed in this category. The house of sticks symbolizes places where the project has some stability but should be improved. Any pieces of the project that need improvement should be placed in this category. Finally, the house of bricks symbolizes full stability. All positive aspects of the project should be placed in this category. Following the placement of comments into houses, teachers should reflect as a group and look for ways to improve the project.

Meeting 5: Love, Want, Hate, Learn

Just as the title suggests, this meeting will ask teachers to reflect on what they love, want, hate, and have learned about the project. Teachers should use written comments or post-it notes to respond to each category. Once all of the answers have been collected, they should be discussed as a group.

Meeting 6: Marie Kondo Method

This method is exactly like Marie Kondo's popular cleaning method, anything that does not work or bring you joy, you get rid of it. Except in this situation, you have two options. If it does not bring you joy, you can either make an adjustment or get rid of it completely. Teachers should respond to each of these categories and communicate their progress on the project. A discussion should follow on how to move forward in the project.

Meeting 7: The Good, The Bad, and The Ugly

Taking the pattern from the movie, this meeting has teachers placing parts of the project into these three categories. Once the issues that teachers are having have been listed in columns, they would use discussion times to make adjustments.

Meeting 8: Facebook Reactions

Given the range of Facebook reactions out there, teachers would need to pick 3-5 different reactions to help their discussion. Once the reactions have been picked, they would be placed upon the board and teachers would align their comments with them. After their comments were aligned with the reactions, a discussion would be held about ways to improve the project.

Meeting 9: Problem, Root Cause, and Solution

For this meeting, teachers would be asked to look at any final problems they were having with the project. If a problem has been articulated, teachers would need to reflect and figure out its root cause. Once a root cause has been found, teachers need to find a solution and a way forward. The discussion would be handled as a group.

Meeting 10: Good, Bad, Better, Best

Each of these categories would be placed on the board. Teachers will then place their comments and evaluations of the project according to the desired category. Once all of the comments have been placed, the teachers would discuss and look for ways to improve or change the project.

Meeting 11: Goldilocks

This evaluation would use the terms “too big”, “too small”, and “just right” from The Goldilocks story. This meeting would take a look at the project and evaluate if some aspect of the project was not fitting right. If something seemed unmanageable or out of place, it would be placed in the too big category. If it needs a change, it would go in the too small category. Finally, if something was working exactly to plan, it would be placed in the “just right” category. After all comments have been added, teachers would discuss the necessary changes.

Meeting 12: Rose, Bud, and Thorn

Just like a rose, there is good that comes with the bad. If there is a part of the project that does not fit or was not working, it would be categorized as a thorn. If something needed in the project needed to be developed, it would be a bud. Finally, if there is

something that is great, this would be a rose. Again, once everything is categorized it would then be up for discussion.

Appendix E

Administration and Teacher Observation Template

The following are templates that have prompts and questions that will guide administration and teacher observations. Remember these observations are meant to be supportive and not judgemental.

Observation Template:

Name of Teacher: _____

Observation Date: _____

Observer: _____

During the Observation:

1. What activities or lectures did you observe in the classroom?

2. Did the teacher actively use growth mindset practices during their lesson?

- ☐ Process Based Feedback
- ☐ Non-Generic Feedback
- ☐ Process Based Learning
- ☐ Demonstrated Failure or Mistakes
- ☐ Growth Mindset Imagery in Lesson
- ☐ Teaching a Step by Step Process
- ☐ Redirect Task Avoidance
- ☐ Promote Positive Self-Talk
- ☐ Give One on One Feedback

3. Describe the teacher's communication and feedback when working with the students?

4. Describe the behavior of the students? Were any students struggling with task avoidance or defensive pessimism?

5. What did you learn from this teacher's lesson?

Places Where the Teacher Shined	Ways to Better Reach Our Goals

Following the observation:

Did you have a discussion with the teacher?

Did you allow the teacher to provide feedback?

During the discussion did you establish goals for the teacher's practice?

Appendix F

Tracking Student and Teaching Progress

For the entire school year, you will be asked to track the progress of your students and your own teaching practice. Documentation of the progress should be done at the end of every month. The way that documentation is formatted will be at the teacher's discretion. The following prompts will aid you in making sure all progress is properly tracked. The statistics should be brought to every teacher meeting and factored into your responses.

Teacher Progress:

1. What is your comfort level in teaching growth mindset?
 - a. Do you have to plan lessons ahead of time or is the incorporation of growth mindset coming naturally?
2. What is the response of your students?
 - a. Do the students seem engaged in the material?
 - i. What is the classroom average participation rate?
 - b. Do the students have any task avoidance or motivation issues?
 - i. Are you able to get the students back on task easier?
3. Do students know about growth mindset?
 - a. Are they familiar with the tactics and their importance?
4. How is your feedback?
 - a. Non-generic?
 - b. Process-based?
 - c. Exhibit mistakes and step by step to learning?
5. Overall, do you feel like these practices are working for you?

Student Progress: *This process needs to be done for each student.*

1. Mark the grade of the student.
2. On a scale of 1-10, what is the average participation rate?
3. On a scale of 1-10, what is the student's average task avoidance rate?
4. General comments on behavior and classroom management.